

# MANUFACTURERS' RECORD

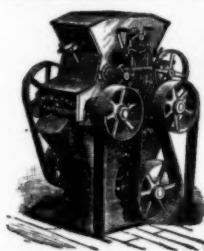
A Weekly Southern Industrial and Hardware Newspaper.

VOL. 9. No. 2.  
WEEKLY.

BALTIMORE, FEBRUARY 20, 1886.

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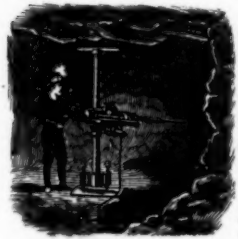
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**MORSE, WILLIAMS & CO.** Successors to CLEM & MORSE  
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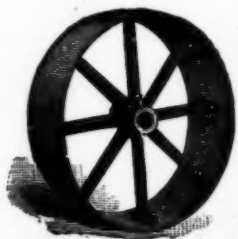
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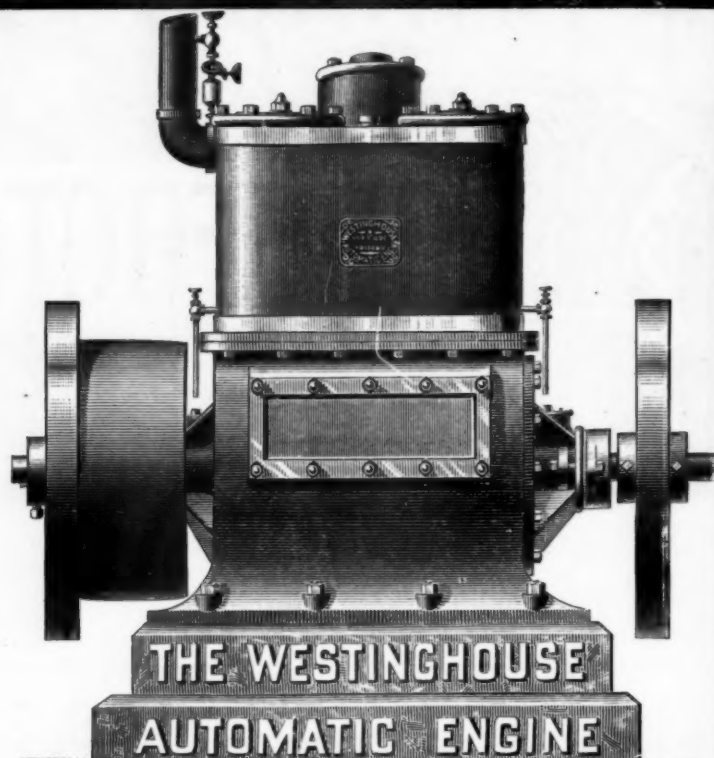
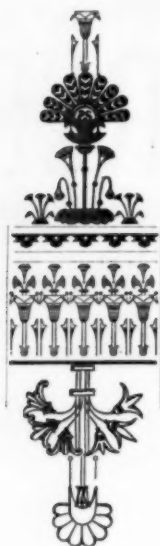
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—WITH THE—

❖ Westinghouse ❖ and ❖ Reynolds-Corliss ❖ Engines ❖

WE COVER THE WHOLE FIELD OF STATIONARY ENGINEERING WITH UNPREJUDICED JUDGMENT.

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Including Boilers, Engines, Heaters, Pumps, Piping, Shafting, Hangers, Pulleys, Fans, Exhausters, Ventilating Wheels, &c.  
Also complete Electric Light Installations, and will deliver the whole in running order for

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Contracting and Consulting Engineers,

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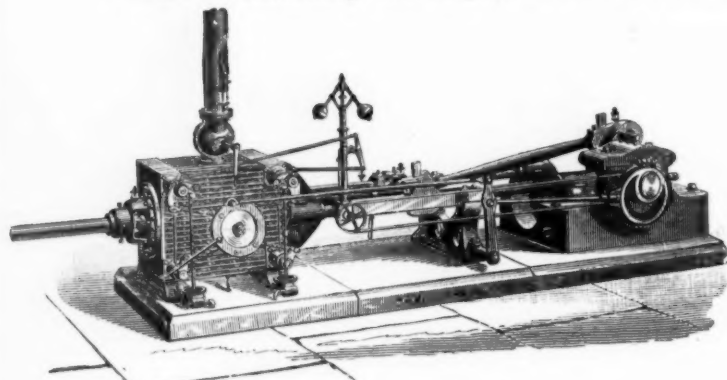
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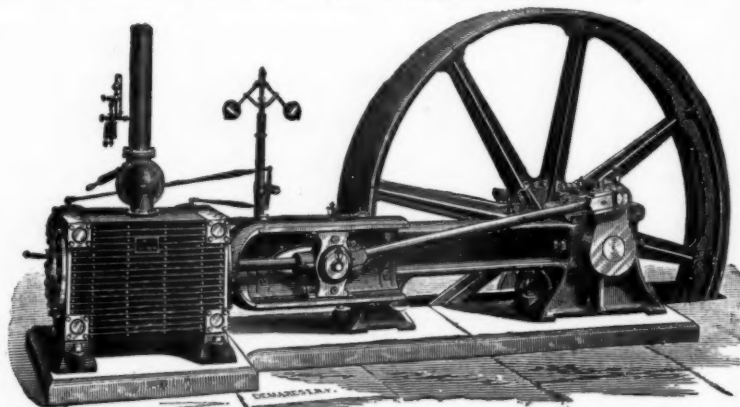
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WROUGHT-IRON FRAME.—400 to 1,000 Horse-Power.



CAST-IRON FRAME.—Up to 600 Horse-Power.

**WE REGARD THE REYNOLDS-CORLISS ENGINE, BUILT BY E. P. ALLIS & CO., MILWAUKEE,**

as in a marked degree the best of its type in respect to the design of its details, its massive construction and very superior workmanship. We call especial attention to the wrought-iron bed, and invite examination of working drawings, which can be seen at our office. Or we will send same with one of our engineers to any party contemplating a purchase. These drawings show the superiority of detail design in a manner that cannot be approached in any advertisement or correspon-

dence. Mr. Edwin Reynolds is probably at this moment the most successful designer of heavy Compound Condensing Engines in the country. The high-duty Pumping Engines, high-speed Blast Engines (with Reynold's patent metal air valves) and Sewage Pumps, built by the above concern, represent the most advanced engineering. They also build an engine designed especially for high-speed service in rolling mills, having a positive valve motion, cut-off ranging to  $\frac{1}{4}$  stroke and speed varia-

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OF THE MOST IMPROVED PATTERNS.

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Cylinders, 36x36 and 36x30, with 20 tops and Self-Strippers and Railway Troughs. Union Cards, with workers, strippers and tops.

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DRAWING FRAMES, ANY LENGTH, WITH 3, 4 AND 5 LINES OF STEEL ROLLERS.

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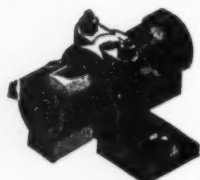
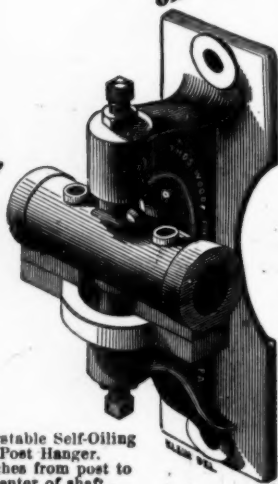
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JAS. H. McMULLAN, Agent,

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ADJUSTABLE SELF-OILING HANGER.

Ball and Socket  
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE  
SELF OILING HANGER.Adjustable Self-Oiling  
Post Hanger.  
6 inches from post to  
center of shaft.

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Power Looms, Patent Hobbin or Quill  
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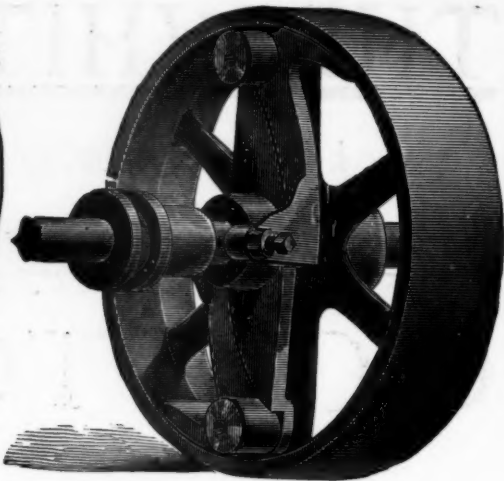
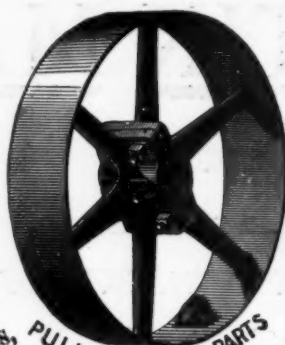
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16, 18 and 20 yards Circumference,  
**WITH IMPROVED HECKS.**  
**SHAFTING,**  
With Patent  
ADJUSTABLE SELF-OILING HANGERS, PULLEY IN TWO PARTS  
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.

Also WALL, POST AND GIRDER HANGERS.  
Pulleys, from 4 inches to 10 feet in diam. or.  
**PATENT FRICTION PULLEY.**  
Pulleys in two parts, any size required.  
**PATENT HOISTING MACHINES.**  
Oil Presses for Lard, Fish and Paraffine.

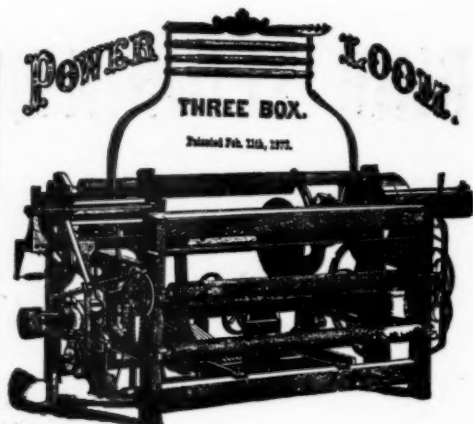
Special Driving,  
such as Angular, Muley, and Gallows Driving,  
furnished for any position  
where possible to transmit power by belts.  
**PULLEYS** from 4 inches to 10 feet in diameter.

Why use old style Bearings, that require oiling  
every day, when you can get Bearings at less cost  
that only require oiling once in Six Months, and  
thus save oil and labor enough to pay for the bear-  
ings in use. Test the matter for yourselves; a  
trial always secures the trade.

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**PATENT FRICTION PULLEY.**

Simple, reliable and very durable.  
Suitable for any kind of driving, they  
serve equally well as driver or driven.

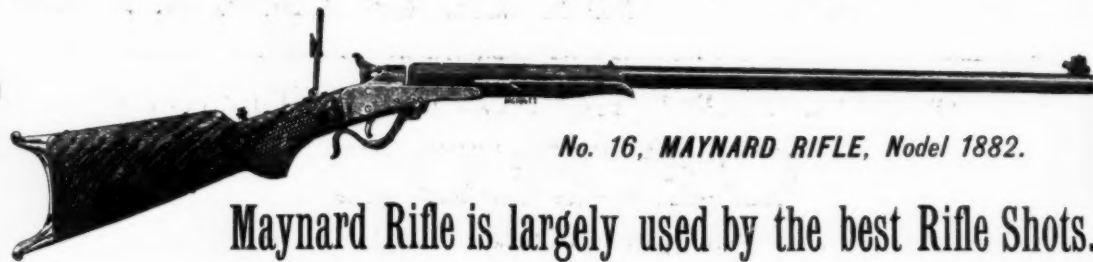


# THE MAYNARD RIFLE

In all Calibres from 22 to 50.

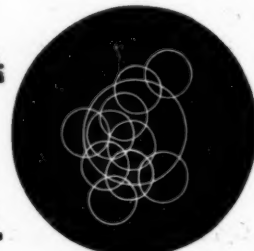
→ Unequalled for Compactness and Portability. Unsurpassed for Accuracy. ←

Our Stock takes Rifle  
Barrels of different  
Calibres, and a  
Shot Barrel.

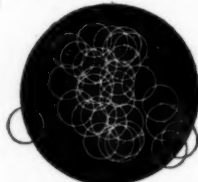


No. 16, MAYNARD RIFLE, Model 1882.

Maynard Rifle is largely used by the best Rifle Shots.



TEN CONSECUTIVE SHOTS,  
100 yards, with a MAYNARD  
RIFLE, 28 inch, 32 calibre, 35  
grains of powder, with a  
patched bullet of 165 grains.



THIRTY CONSECUTIVE SHOTS,  
75 ft. off-hand, with a MAY-  
NARD RIFLE, 22 calibre. By  
H. G. BIXBY, Nashua, N. H.

At the Spring Meeting of the Lawrence (Mass.) Rifle Club, May 30, 1885, Mr. E. F. RICHARDSON, with a Maynard Rifle, made 27 consecutive bull's eyes, at a distance of 200 yards, off-hand, on a paper target. On July 11, 1885, he scored 31 consecutive bull's eyes under the same conditions. These scores are the best on record.

On May 9, 1885, Mr. W. H. TAFT, of Brattleboro', Vt., made in a regular match, with a Maynard Rifle, at 200 yards distance, off-hand, 117 out of a possible 120, on the Massachusetts Paper Target, a score which has never been excelled.

Inside of a ring 3 1/4 inch diameter, Mr. C. H. BROWN, of Fitchburg, Mass., in a regular match at Walnut Hill Range, July 5th, 1884, at a distance of 200 yards, with a Maynard Rifle, placed 7 consecutive shots.

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**RILEY & GRAY,**

—SUCCESSORS TO—

**HOWARD & BULLOUGH, & RILEY,**

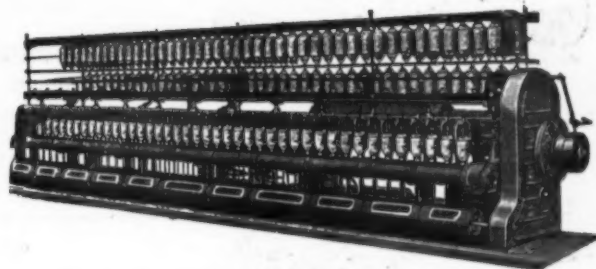
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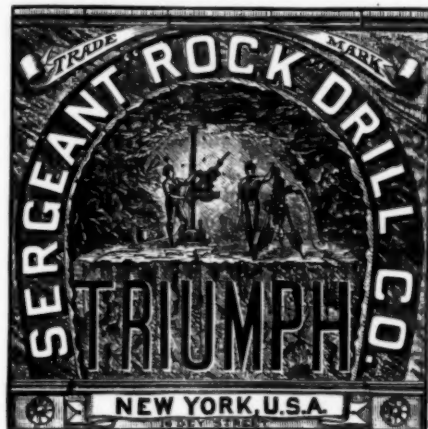
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GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

*Made PERFECTLY Straight and any Length without Joints.**For Main Driving it is the Best. Much Cheaper Than Leather.*

MANUFACTURED BY

**THE GANDY BELTING CO., BALTIMORE, MD.****THE "TRIUMPH" ROCK DRILL**  
and NORWALK AIR COMPRESSOR

Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric

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Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

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SUPERIOR WORKMANSHIP.

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EVERY RING WARRANTED.



The Simplest and Best Method of Adjusting Rings.

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—MANUFACTURERS OF—

**Sheet Brass, Seamless & Brazed Brass AND Copper Tubing**

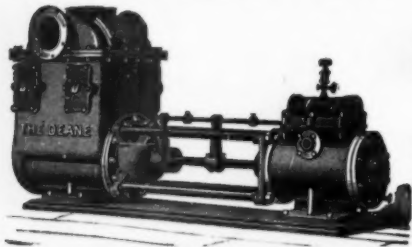
BRASS and COPPER WIRE, and RODS,

Gas and Kerosene Burners and Trimmings. **=====** The Celebrated Leader Burner a Specialty.

ELECTRIC COPPER WIRES, Plain and Covered. Particular Attention given to Cutting Blanks and Metals to Order.

# THE DEANE STEAM PUMP CO., HOLYOKE, MASS.

MANUFACTURE



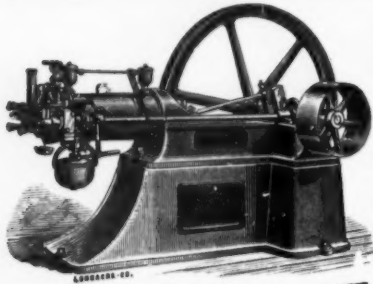
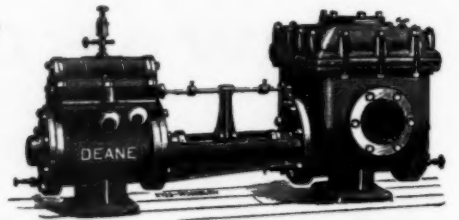
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

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20 to 70 per ct. less Gas consumption than ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

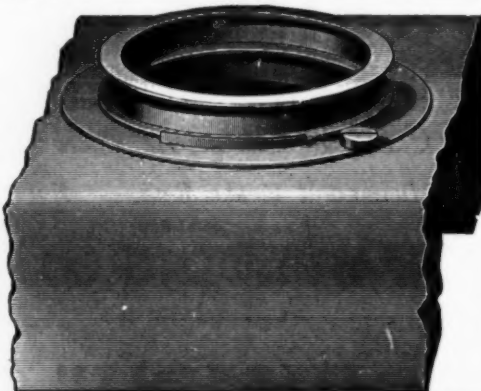
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## DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,  
HOPEDALE, MASS.

TELEGRAPH ADDRESS AND RAILROAD STATION,  
MILFORD MASS.



Number of Rings sold.	Number of Rings sold for repairs.
1869... 6,025.....	
1870... 30,258.....	
1871... 38,648.....	
1872... 94,264.....	12
1873... 117,301.....	
1874... 166,382.....	500
1875... 223,994.....	953
1876... 185,319.....	947
1877... 270,211.....	946
1878... 215,214.....	3,329
1879... 336,218.....	8,007
1880... 567,860.....	11,264
1881... 659,730.....	8,974
1882... 636,715.....	22,515
1883... 416,500.....	21,689
1884... 310,869.....	25,105
1885, 9 mos. 212,056.....	22,373
Total num-ber sold... 4,489,794	126,604

Total number in use 4,363,190.

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we reduced the price on and after the first day of January, 1885, of those 1 1/4 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

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Blast Engines FOR IRON & STEEL WORKS

BESSEMER STEEL PLANT MACHINERY.

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SPRING PLATE STEEL TIRE CAR WHEELS. CAST CAR WHEELS. MINE CAR WHEELS.

STATIONARY ENGINES. HORIZONTAL & VERTICAL. SINGLE & IN PAIRS.

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BOILERS OF EVERY KIND & SIZE.

HANGERS. SHAFTING & PULLEYS.

GEARS BOTH CAST & CUT.

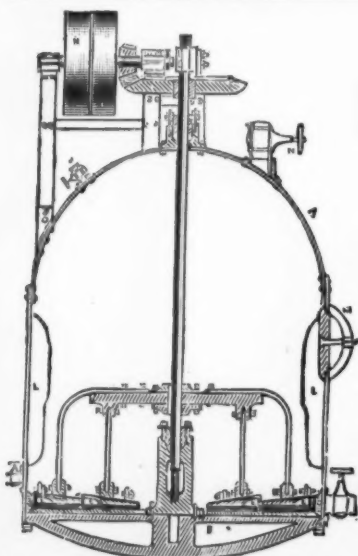
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THE MEECH GOLD AND SILVER ORE

## Disintegrating Machine

The Only Method for Preparing the Ore for Amalgamation.

Disintegrating, Decomposing and Desulphurizing the ore under a HIGH TEMPERATURE AND PRESSURE OF STEAM HEAT, with chemical action and attrition, dissolves and breaks up the chemical combination in the ores, individualizing, cleaning and separating the atoms of metal from the gangue, perfectly freeing them for amalgamation in combination with the MEECH AMALGAMATION MACHINE and process, (being the greatest combination of Amalgamation known,) will successfully extract 90 per cent. of the metal from rebellious ores, such as Sulphurets, Sulphates, Sulphides, Chlorides, Bromides, Oxides, Tellurides, &c.

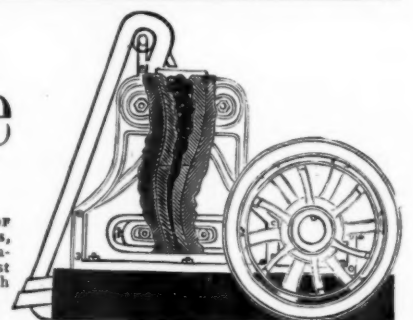
We desire business correspondents in every mining district in the United States.

## THE MEECH CRUSHER & PULVERIZER.

This Machine will CRUSH AND PULVERIZE GOLD AND SILVER ORES to 20, 40, and 60 mesh fine, and from 20, 40 and 60 tons per day. The principles of this machine, making it superior to all others, are the peculiar concave and convex shape of the jaws, with concave and convex projections, which breaks, crumbles, stamps and pulverizes the ore with less power, wear and tear, than any other machine. MANUFACTURED BY

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BALTIMORE, FEBRUARY 20, 1886.

## The Prosperity of Florida.

The people of Florida are very justly indignant at the many falsehoods that have been circulated about the damage to that State by the late cold spell. It is true that heavy ice formed in nearly all parts of the State, and that oranges on the trees and tender vegetables were, to a large extent, frozen. This no one denies, but that the orange trees were killed or that the orange industry received any very serious set back, is almost universally denied by those who are in a position to know, and whose testimony is worth anything. The very fact that the State passed through such a trying ordeal—the severest weather, it is believed, since 1835—without far greater losses than were suffered, will, we are confident, do far more good for the State than the amount of harm done by the freeze. Heretofore there has been some uncertainty as to the orange business, and as to whether the trees could successfully resist a protracted cold spell, should it come. Such very severe weather hardly strikes that State probably more than once or twice in a century, and until the recent spell there had been no such intense cold felt in Florida since the orange and vegetable business commenced to attract so much attention. It has now been demonstrated that the orange tree can live even through such intense cold, and this fact alone will, in the eyes of many people, add greatly to the attractions of an orange grove as a permanently safe investment, notwithstanding an occasional touch of a Northern blizzard. This is one very decided gain for Florida. Moreover the freeze proved destruc-

tive to many insects, against which the orange grower has to constantly fight, and this too is a great advantage. Another good result will be that it will teach the people of Florida not to permit orange culture to claim their whole attention to the exclusion of all other forms of agriculture. In agriculture, as in any other industry, there must be diversity to ensure permanent prosperity. And for the good of Florida it will be well if her people have been taught, by the partial loss of one orange crop, not to devote their whole time and attention to oranges, but to diversify their productions, to be more self-supporting than heretofore, and to make the orange crop a surplus money crop. If this has been even partly accomplished by the late cold weather then the temporary loss will prove a permanent gain to the State. The all-cotton system, with its attendant evils, is the curse of Southern agricultural interests, and yet, under a proper system of cultivation, cotton can be made a very profitable crop. And so it is with all other agricultural products. An exclusive crop, whether it be cotton, corn, wheat, tobacco or oranges, will not prove permanently profitable, however flattering the returns may be for a while. In Florida all interest was being too largely centered in oranges, and this freeze will doubtless convince even orange growers of the advisability of raising as far as possible their own home supplies.

The calumnies of those who from malevolence or ignorance are seeking to discredit the attractions and capabilities of the State are controverted by the testimony of thousands who have regained health, and made money cultivating "Florida sand." Of course every invalid who goes to Florida will not be restored to health or be forever exempt from sickness, nor will everybody who goes there for business purposes amass wealth. There are many places that are unhealthy in Florida as in every other State. Because, for example, there are malarious districts in Maryland is not sufficient reason for denouncing the whole State as unhealthful. Because some adventurers have taken advantage of the large immigration to Florida and the interest centering on the State as a place for investment, to float dishonest land schemes, is no reason why every real-estate dealer or every man who advertises Florida property for sale should be considered a thief. Nobody ought to be foolish enough to buy land in Florida, or anywhere else, without knowing something about it, or about the man or company from whom or through whom he buys it.

The prosperity of Florida is built on a sure foundation. The State possesses attractions and resources and capabilities that do not exist elsewhere, and which are such as are in the nature of things bound to bring her population and wealth.

## Making Railroad Cars in the South.

Very few recent events in the industrial world have been more widely discussed than the order received by the Roanoke Machine Works, of Roanoke, Va., from the New York, New Haven & Hartford Railroad for 500 cars. That a Southern concern, and that, too, in a new place like Roanoke, should be able to underbid all of its Northern competitors and secure an important order from a Northern railroad, opened the eyes of many to the possibilities of the South. Many efforts have been made to argue away the force of this order and to show that it was an exceptional case. The Railway Review, of Chicago, especially, attempted to do this. It stated:

"The bodies of these cars will, of course, be built in Virginia; the iron required in their construction is being sought for in Pennsylvania, and the wheels are to come from Lime Rock, Ct."

And then claimed it to be

"A question with many if there will not be money lost on this contract."

In a subsequent issue the Review said:

"There is a little doubt that the car-building contract placed in Virginia, which we mentioned last week, is a losing one to the builders. But the explanation is probably to be found in the fact that the manufacturing firm which took the order at losing figures did so simply to give its hands employment. Like a Western concern which lately took a similar contract at low figures, for the same reason, the Virginia firm owns, indirectly, the village in which its employees reside. If its men obtain no work, they, of course, have nothing with which to pay rent, and in the investment made by the manufacturing concern, through its auxiliary land or improvement company, thus ceases to make returns. It thus becomes imperative that the manufacturing company shall obtain contracts even if no more than wages for its employees can be secured therefor beyond the cost of material."

These surmises and statements are not correct. The Roanoke Machine Works do not by any means own Roanoke. Instead of taking work simply to give their hands employment, they have had to largely increase their force, bringing hands from other places, to keep up with their orders, and are reported as crowded with work. Instead of getting their iron in Pennsylvania, their bar iron comes from Richmond and their pig iron is made by the Crozer Furnace, which is only about a quarter of a mile from their works, and the contract, instead of being a losing one, was taken at profitable figures. The following letter from this company very effectually disposes of the false reports circulated in regard to this order:

ROANOKE MACHINE WORKS,  
ROANOKE, VA., Feb. 8, 1886.

Editor Manufacturers' Record:

We have your favor of 3d inst., accompanied with clippings from papers criticising the order recently placed with us for box cars, and in reply beg to advise you that the clippings do not represent the case correctly.

In the first place, the bar iron is now being made by the Old Dominion Company, of Richmond. All of the pig iron for castings (except wheels) is being furnished by the Crozer people, whose furnace is our very

near neighbor; their property, in fact, is almost adjoining our machine works plant. The furnace itself is located about  $\frac{1}{4}$  of a mile from our works.

The white oak is furnished along the line of the Norfolk & Western and Shenandoah Valley Railroads, within ten to fifty miles of our works, and at a much less figure than many other concerns pay for such lumber.

It is true that the wheels and axles are furnished by the railroad for whom the cars are being built—they specifying a certain make of wheels and axles. This, however, was the case with all bidders, and we found our location to be quite as advantageous in this respect as in others, for the reason that the greater part of the distance over which this material will be taken is by water instead of an all rail haul, which would have been the case with many others.

The bid was made flat footed, and based upon figures which will enable us to make some money.

Trusting that the above information will set us right in the matter, and thanking you for the interest you have taken, we are,

Yours respectfully,

ROANOKE MACHINE WORKS.

As this company has now demonstrated the ability of Southern car works to underbid their Northern competitors, in some cases at least, we hope to see a more vigorous effort on the part of Southern manufacturers to enter the field against all competitors. Take this one line of manufacturing for instance. How many places there are in the South where cars could be cheaply made! The Anniston Car Works, using them as an illustration, will probably soon be in operation, and a summary of their advantages will show why in this line of manufacturing the South ought to be very successful. At Anniston there is an abundance of pig iron, which can be had without the expense of \$3 or \$4 freight per ton, and hence about that much cheaper than the Northern car works can secure their pig iron; car wheels of the best quality and car axles are manufactured in Anniston, and the timber needed is abundant, and, like the pig iron, much cheaper than at the North. Here are the chief materials, all centered in one place, for making cars, their cost being much less than the prices that the Northern works must pay. Taxes are light and labor is less costly—owing partly to the cheapness of living in the South—than in the North. Is there any reason under these circumstances why these Anniston works should not be able to manufacture cars more cheaply than many Northern car works? And as with cars, so with many other things. Why should the South ship its lumber and its pig iron in their manufactured state to the North and buy them back in the shape of agricultural implements, hardware, furniture, carriages, wagons, &c., paying the freight both ways? Why not manufacture these things at home and thus not only save the cost of shipping to and from the North, but also furnish home employment to many hands, increase the value of all property and hasten on the growing prosperity of the South?

This good work is already in progress, as the weekly issues of the MANUFACTURERS' RECORD abundantly prove.



## The "Starving Mechanics" of London.

Last week's cable dispatches were largely devoted to accounts of the great riot in London. We were told that "The 'Starving Mechanics' of London to-day held a mass meeting in Trafalgar square, around the Nelson monument, and it resulted in a riot. The proceedings were opened with the assemblage of ten thousand men." A large part of the city was taken possession of by a mob, that soon numbered 50,000 people. In the speeches it was demanded that Parliament should "start public works, to give employment to tens of thousands of the deserving men who were out of work, through no fault of their own, but because of bad government, \* \* \* "The time had arrived" it was claimed, "for Parliament to legislate for the relief of the depression in English agricultural industry." Some of these orators went so far as to warn the government, that "although the starving mechanics of London were now trying to draw attention to their needs by quiet and peaceful agitation, they were bound to have bread, and would get it by attacking the baker's shop if the government did not come to their relief." It was also "declared that the people had assembled to summon Parliament to at once relieve the distress of the British workingmen, and that the people wanted the question settled at once, otherwise a revolution was inevitable." Will our free-trade friends please explain all this? They have been telling us of the beauties of free trade, and pointing to England as a bright and shining example of what it would do; they have claimed that all we needed to make this country prosperous was to adopt the free-trade policy of England.

England has free trade to her heart's content. She has had the "markets of the world," of which we hear so much, open to her merchants and manufacturers. She now has and has had for several years an almost unexampled business depression. Her ship yards are comparatively idle, her ocean steamers are laid up by the hundred because they can find no employment, her factories, iron works and other industries are closed or running on short time, her mechanics have been forced to accept wages extremely low, even for that country, or else quit work entirely, and thousands of willing workers can find no work to do. Poverty and distress are everywhere, notwithstanding the great efforts of systematic philanthropy to relieve the suffering. Instead of brightening skies, the business world of England shows even deeper depression. All this in free trade England!

In protected America we see our business interests rapidly improving, new mills and works going up, those long idle with fires once more lighted, and the hum of industry heard, many works crowded with

orders, and best of all, a voluntary advance being made in wages by many manufacturers. With the exception of one or two industries in which there is some labor trouble, the whole prospect is encouraging, and everything indicating a period of much activity, despite the uncertainty of Congressional action upon the silver and the tariff questions. Do our free trade friends want us to give up all this, simply to follow England's teachings?

### Taxation South and North.

The census demonstrated some most interesting facts. The figures have been grouped very instructively and some very valuable lessons may be drawn from them. The statistics of per capita tax in the different States are a matter of economic value in more respects than one. They are especially important in showing that the South is a desirable section to locate in, to secure freedom from the burdens of government in their heavier phases, and when this privilege is associated, as in the case of the South, with better climate, superior natural resources, freedom from bleak winters and killing cold, and all the advantages of our sunny region, the inducement to give the South the preference as a place to immigrate to, is irresistible. Let us take the per capita tax in the five New England States:

STATES.	Per capita tax.
Maine.....	7.99
New Hampshire.....	7.77
Vermont.....	5.25
Massachusetts.....	13.64
Rhode Island.....	9.74
Connecticut.....	8.62

We will now take the six Southern States of the Atlantic coast:

STATES.	Per capita tax.
Virginia.....	3.07
North Carolina.....	1.37
South Carolina.....	1.85
Georgia.....	2.08
Florida.....	2.25
Alabama.....	1.63

We will show the tax in six of the Western States, in order to demonstrate that the advantage of low taxation still belongs to the South in comparison with any section. We will select the six lowest Western States:

STATES.	Per capita tax.
Kansas.....	5.00
Indiana.....	6.24
Michigan.....	5.27
Wisconsin.....	5.27
Minnesota.....	5.37
Illinois.....	6.24

In the far Western States the same proportion holds. For instance we find that the Pacific States stand thus:

STATES.	Per capita tax.
California.....	14.60
Oregon.....	6.37
Nevada.....	14.00
Colorado.....	11.07

We have given some of the details, and now we will present the average by sections:

SECTIONS.	Per capita tax.
New England States.....	10.47
Middle States.....	8.63
Western States.....	6.97
Southern States.....	2.46

The difference in the rate of taxation between the New England States, for instance, and the Southern States is prodigious and amounts to a vast aggregate income. To individuals it is a great difference, making on large properties a heavy percentage. As we stated at the outset, when we connect this tremendous disparity in taxation with the marvellous wealth of

resources in the South, and add to this the immeasurable benefit of a climate that never freezes up, that permits unobstructed labor all the year round, that allows agriculture to be pressed ten months in the year, and we have a superiority of natural attraction that is irresistible. The census man has ingeniously arranged the States into a pyramid to illustrate the matter of taxation, and upon the broad expanding base with California to represent the substratum of a burdensome taxation, there rises in diminishing onerousness the outline of State and other expense to pay for the benefit of every kind of government, in which the South caps all as the glorious apex of the suggestive pyramid, representing the greatest exemption in this broad country from the depressing burdens of government support. The value and the significance of this can not be over estimated, and the more it is considered the stronger recommendation does it appear. It is one of the many recommendations that must render the South attractive to the world's emigrants, seeking desirable homes. It must and should be a potential factor in inducing the seekers for the best locations in which to live to choose the sunny South.

### Railroad Commissions.

The Baltimore Sun, of February 13, published dispatches from Charleston, S. C., and Boston, Mass., as to the workings of the railroad commissions in those two States.

The dispatch from Charleston, referring to the act creating the commission, says:

"The act tended to discourage investments in railroads, and for a time at least put a stop to all extensive railroad building in this State. It is said to have prevented the construction of several lines of railroads, and notably among these may be mentioned the proposed extension of the John M. Robinson line, which was to have run through this State from the Northeastern boundary to some point on the coast, or to the Georgia line.

In 1883, however, so great had been the dissatisfaction raised by the passage of this law that the General Assembly amended the act so as to allow railroads to make their own rates, the schedules made by the roads to be first submitted to the railroad commission. \* \* \* Under the operation of the law as it now stands, and as it is administered by the present commission, there is very little ground for complaint. The rates, which have been prepared by the railroad companies, have proved satisfactory to the commission, and have been accepted by all concerned as "just and reasonable." The commissioners are conservative in their tendencies. The severest complaint made against them is that they do so little, and that their main purpose seems to be a demand upon the State treasurer for their salaries the moment they become due."

In an editorial on the subject, the Sun says:

"Their general working, it will be observed, has been beneficial to all parties concerned."

The above facts are, in themselves, the strongest sort of an argument against railroad commissions. It is admitted that the commission in

South Carolina, as long as the provisions of the act creating it were carried out, restricted further railroad building, retarded the development of sections that would have been given railroad facilities, and proved a hindrance to the State's progress. When, however, the commission was shorn of its arbitrary powers, and became simply a figure-head, the duties of its officers being limited to drawing their salaries promptly and regularly, then its "general working" was beneficial to all parties concerned." That is, the commission was a source of injury to the State as long as it was active in the performance of its duties, and was "beneficial to all parties concerned" only when it became inoperative.

What possible reason can there be why any State should establish, or allow to exist, an office that is admittedly either a barrier to its development or a useless encumbrance? An office that in order to avoid working harm to the State's interest must become a nonentity, except with regard to the salaries of those who fill it?

### Editorial Notes from Polk County, N. C.

Polk county, N. C., is greatly interested at present over the possibility of having another railroad passing through the county-seat—Columbus—and Tryon and reaching Greenville, S. C. The county commissioners are negotiating with three companies, and the prospects for a favorable response from one of them is said to be very good. The Carolina Central Railroad Co., of which Col. John M. Robinson, of Baltimore, is the president, is extending its line from Shelby towards Rutherfordton, and it is thought that possibly they can be induced to run their road through Polk county and on to Greenville. The other two companies are the Boston Construction Co., now building a road in Rutherford county, and the Baltimore & Ohio, which is reported to be considering the advisability of the early extension of its lines from Lexington, Va., to the South.

\* \* \* \*

The people of Polk county are very much in earnest in wanting another railroad, the only road now passing through the county being the Asheville & Spartanburg. They are willing to make a liberal county subscription, \$75,000 being named as the amount which would be voted. Quite liberal private subscriptions, it is said, could also be secured, one property owner being reported as being not only willing to subscribe liberally for the bonds of the company, but as having stated that, in addition to that, he would make the company a present of \$10,000. Should any one of these companies build through Polk county their objective point would naturally be Greenville, S. C., and Greenville county is said to be willing to double Polk county's subscription.



A railroad passing through this section would develop a fine country of great natural resources and advantages. At present the transportation facilities are very limited. The Asheville & Spartanburg Railroad (the only railroad in the county) being in an unfinished condition, passenger travel as well as freight business is much restricted. There is very large mineral and timber wealth, and the agricultural possibilities are great. The river bottom lands are rich and productive, while the hillsides and mountainland will not only yield large crops of tobacco, but will also produce in great abundance the most luscious fruits, such as peaches, pears, apricots, grapes, plums, cherries, &c. In fact, the advantages for fruit culture possessed by this section are almost sure to make it the center of a great fruit business in the near future. Not only does fruit grow in great abundance and of the finest flavor, but owing to the peculiar protection from the cold afforded by the mountains that break the force of the Northern and Western winds, it ripens so early in the season that its shipment to Northern markets will prove quite profitable when adequate transportation facilities are provided.

Of equal importance with the agricultural advantages of this section is its remarkably fine climate. Free from all malaria; dry, bracing and balmy, its good effect upon lung and throat troubles being very marked; cool in summer and comparatively warm in winter; the climate alone will attract many visitors as well as permanent settlers as the country becomes more widely known. There is, of course, some very cold weather when warm fires and heavy wraps are needed, but such spells are said to be of rather rare occurrence and generally of short duration. And even then the atmosphere is so thoroughly dry that the cold is free from the penetrating effect so unpleasant where the air is raw and damp. The writer had a good illustration of the beauties of this climate during the last few days. On Feb. 5, 6 and 7 the weather through the North and in Maryland and Virginia was intensely cold, with heavy snow storms. The papers were filled with reports of the intense cold, the railroad blockades from snow 14 and 15 inches deep, harbors frozen up and great suffering among the poor. During those same days and up to present writing the weather up here in Polk county, in the mountains, has been as balmy as on a spring day, with the thermometer at 12 o'clock every day for nearly a week reaching from 75 to 82 in the sun.

Let it not be imagined though that this is an earthly Paradise where bad weather is unknown. There are rainy days here as elsewhere. Occasionally there is a good snow, sometimes a sleet, and sometimes a lowering of the temperature, that in an atmosphere less dry would be exceedingly

disagreeable, but on the whole a better climate, all things taken into consideration, would probably be very hard to find. Days of bright sunshine, when out-door life is a pleasure, are very numerous, and far outnumber the cloudy days. And then the scenery is attractive enough to satisfy the most exacting. Good railroad facilities and good well-built hotels would in a few years make this region a great winter resort. There are many magnificent sites for large hotels all through this "Thermal Belt." Hotels here have a double advantage in having both winter and summer business. In summer this whole mountain region of Western North Carolina is overrun with visitors, mainly from the "low country" of the South, though there is a steadily increasing number of Northern and Western people, drawn here by the magnificent scenery and the delightful summer climate. In winter many people from the North, seeking a pleasant climate, in search of health, come to this part of Carolina. The summer business is already very large, and will increase just as rapidly as hotel accommodations are provided. The winter business can also be made very large when railroads have been constructed, good hotels built and the advantages of this section made known to the general public. All this will be done in a comparatively few years, and then added to their heavy passenger traffic, the railroads passing through Polk county will find a profitable freight business in the transportation of minerals, lumber and fruit, and other agricultural products.

THE MANUFACTURERS' RECORD has persistently upheld the intrinsic value of Southern cotton mill property, notwithstanding the severe depression, and lately we have called attention to the signs of returning prosperity to this industry. The Atlanta Constitution reports:

Mr. C. A. Collier, one of the largest stockholders in the Eagle and Phenix mill, of Columbus, says: "The Eagle and Phenix consumes more cotton than any mill in America. Its yearly reports are therefore significant. At the annual meeting this week the report showed larger sales in the past three months than any three months in the mill's history. The traveling men have been called in because the mill is behind its orders. The Swift Manufacturing Company reports just such activity. We were shown the bins for storing surplus goods, and they were bare."

"Have profits been lowered to create this demand?"

"Just the contrary. The Eagle and Phenix lost money steadily for the first nine months of the year. In the last three months it recouped its losses and made \$17,000. It looks in the Southern cotton mills as if the 'good times' had come again once more."

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

### Our Birmingham Letter.

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., February 15, 1886.

This thing is getting monotonous! Iron is just as steady as it was when I wrote last week, if not more so. The market remains firm and active at \$16.50 for No. 1 foundry at furnace—just as it has been for four or five weeks. Stocks decline to accumulate, and the figures given in my latest previous letter, about 5,000 tons of unsold iron in the whole district, will do for the present date, if anything with some abatement, because the demand is fully up to the combined producing capacity of the furnaces, and, if anything, something beyond. Notwithstanding the recent advance in freights enacted by the Ohio river pool, Birmingham pig iron continues to move toward Louisville, Cincinnati, St. Louis and Chicago, as fast as our iron masters can make it, and there is a large demand from New York, sufficient to absorb a much greater quantity of metal at present prices, than can be comfortably furnished with current stocks and facilities, in addition to the Western and Northwestern orders. In every other department of the iron trade the state of business is something more than satisfactory. The rolling mill, foundries, machinery, pipe, and all the other works are working on extra time, and still keep away behindhand with their orders, which indeed are steadily increasing with the nearer approach of spring.

The eminent architect, Mr. Walters, C. E., of Louisville, who has charge of both the new Union station and of the new hotel, was in the city last week, and promised that both structures should be ready for occupancy by the 1st of October next. Local architects are working extra draughtsmen against the arrival of the active building season, which will come along now in a very few weeks. The weather now could pass for pretty good April weather in Baltimore, and birds and buds all around indicate that the early spring of this latitude is close at hand. In the meantime the active movement in real estate, heretofore noted, continues increasingly. A good deal of business property in favorable locations changed hands last week, and conveyances of the best class of residence property are reported daily. There is such a general impression that prices of desirable real estate will advance during the next 90 days, that a number of holders have withdrawn their offerings from market, being unsatisfied with ruling prices.

It is not to be doubted that a great deal in connection with the future of Birmingham depends upon our ability to establish the steel industry in this vicinity. The recent visit of Mr. Jacob Reese, already alluded to in these letters, has stirred the discussion of our ability to accomplish such a movement rather considerably. Mr. Reese spent a couple of weeks among our practical coal and iron men, engineers and metallurgists, and became quite convinced that there was nothing lacking to warrant the profitable maintenance of the Basic steel industry in the city and the district. Coming from such an undoubted authority this opinion has been of value, although it was not needed to satisfy people who keep informed on such matters that our ores were well enough adapted to the production of steel by some of the processes other than the Bessemer. There are ores in Europe—in Belgium, for example—much like the Alabama mineral, and they make good steel. All this appears to be contrary to the opinion of Mr. Edmund C. Pechin, M. E., of Cleveland, Ohio,—that is, if he is correctly quoted in the press. The newspaper reports I have seen make him say that the ores around Birmingham are unfit for the manufacture of Basic steel, while he

concedes that the ores in the neighborhood of the Tecumseh furnace, in Eastern Alabama, are peculiarly well-fitted for the same purpose. The Tecumseh ores are brown hematites, and as far as I can learn, are identical with the brown hematites plentifully found in this vicinity. If Mr. Pechin has any well defined scientific reason for holding that the red hematites of Birmingham will not make satisfactory Basic pig, I do not hear that he has given the public benefit of it. I do not know a man in iron or steel circles for whom I entertain a higher personal or professional regard, and, after proper investigation, I do not know one whose opinion would be entitled to greater weight; but I do not believe he has given the matter in hand much attention, and, very likely, is not anxious to. The successful founding of a great steel interest at Birmingham on the basis of Alabama ores would not particularly benefit the traffic in Lake Superior Bessemer ores, with which Mr. Pechin has been so long and so honorably connected, and I do not think that he would travel far, or be willing to live on bread and water long, for the sake of being convinced that the days of Bessemer monopoly are numbered. I am equally sure that, once convinced, he would own up, like the honest gentleman I know him to be. A few days spent in these parts would convince him, I am sure.

Not a little interest has been excited, at least locally, by the movements of the principal proprietors of coal lands in Walker county, which adjoins this one on the west. Until recently the Walker county portion of the Warrior coal field has attracted comparatively slight interest, being remote from actual developments and transportation. At the same time it has been well known that some of the richest coal territory in the State was to be found in that direction, and many of our citizens in company with others in Selma, Montgomery, Mobile, New Orleans and Memphis, have made considerable investments in Walker county property. The extension of the Georgia Pacific, which will be pushed this year, and the promised construction of the Memphis, Birmingham & Atlantic Railway, will bring a large part of these coal properties into market, and that important fact underlies what the coal land owners are trying to accomplish. The meeting of these gentlemen on the 10th, mentioned prospectively in last week's letter, occurred according to programme. A number of individuals, firms and corporations were present in person, by officers, or by proxy. Of the 400,000 acres, coal area estimated for Walker county, 244,700 acres were represented in the meeting, the object of which was to effect a consolidation of the scattering interests, and to crystallize the Walker county coal proprietary into one large corporate body. This would put a stop to competition among holders and tend to much advance the value of coal lands in the district. It must be admitted that, however profitable or desirable this proposition may appear to the coal land owners, it has not met with unequalled public approval. An impression seems to be abroad that the effort is one in the direction of monopoly. However that may be, the action of the owners in forming a combination like that contemplated would be quite harmless. Granted that they succeed in holding up 240,000 acres of coal lands under a single organization! The Louisville & Nashville and the other railways have together perhaps 160,000 acres more, which none of them are anxious to sell except for actual development. Anybody who wants to mine coal and bring it to market, and guarantee reasonable development to the property, can get all the first-class coal lands he can use from the railway companies on extremely favorable terms. As long as that is the case monopoly is powerless to arrest development. After a full discussion of the possibilities, a committee, to formulate a plan, was appointed, and the coal land owners adjourned to meet again March 11. In the meantime they will consult stockholders or partners, and be ready for final action next month.

G. B. WEST.



# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

## ALABAMA.

The contract for erecting an electric light plant for Mobile, Ala., has been let to the Brooklyn Electric Construction Co., at \$19,500.

Charles Pierce, Indianapolis, Ind., has received the contract for erecting, at Birmingham, Ala., a depot to cost \$45,570, an express office to cost \$9,000, and a car shed to cost \$17,000.

A \$30,000 hotel is to be erected at Monte Sano, three miles from Huntsville, Ala.

Adam Glass, O. L. Crampton, Rufus Dane and others have formed a coal company at Mobile, Ala., to develop mines in Walker county.

## ARKANSAS.

Mr. Steher, of St. Louis, has purchased a site of several acres near Paragould, Ark., for a large stove factory, which he will erect at once. The machinery has been ordered.

N. S. Storrs and others, of Springdale, Ark., will organize a company, to start a canning factory, with daily capacity of 25,000 cans.

John O'Day, Springfield, Mo.; W. M. Fishback, Fort Smith, Ark.; James Dunn, A. Douglas and others have incorporated the Fort Smith & Southern Railroad Co., capital stock \$3,500,000, to build a road, 150 miles long, from Fort Smith to the Red river.

## FLORIDA.

D. L. Way and J. Albert Merritt, Sanford, Fla., are trying to organize a company to establish an ice factory.

A. G. Stowell has started a jelly factory at Haines City, Fla.

It is reported that a company has been formed to establish a sugar farm and a refinery at Kissimmee, Fla., with a daily capacity of 10,000 pounds.

D. P. Warner will engage in the manufacturing of orange wine at Fairbanks, Fla.

P. L. Mofton, Sanford, Fla., will receive bids until February 20 for rebuilding the machine shops of the South Florida Railroad Co., previously reported as burned.

## GEORGIA.

J. B. Florence, Powder Springs, Ga., will put some new machinery in his flour mill.

Joseph Vickery, of Toccoa, Ga., and R. D. Yow have bought the cotton factory of the Shoal Creek Manufacturing Co., Parker's Store, Ga.

The Brunswick Light & Water Co., Brunswick, Ga., previously reported, have purchased sites for their gas works and water works and will begin work soon.

## KENTUCKY.

The Louisville Brick Co., capital stock \$35,000, has been incorporated at Louisville, Ky., with R. T. Colston as president, Brent Moore, vice-president, and E. B. Fox, secretary and treasurer.

The Lexington Grooved Picket Fence Co., capital stock \$12,000, has been incorporated at Lexington, Ky., to manufacture fences, with H. C. Clay as president; J. M. Hocker, Jr., vice-president, and C. P. Harp, secretary and treasurer.

The Kentucky Cremation Society has been organized at Louisville, Ky., to erect a crematory, with W. F. Norton as president, and E. C. Bohne, secretary and treasurer. The capital stock is not to exceed \$100,000.

Bills have been introduced in the Kentucky legislature to incorporate the Kentucky Household Gas Supply Co., capital stock \$50,000, with Horace T. Hanford, F. Fox, Jr., and W. L. Breyfogle as incorporators, and the Kentucky Rock Oil Co., of Paris, capital stock \$5,000,000.

\$7,000 has been raised at Fulton, Ky., towards organizing a stock company to erect a furniture factory.

## LOUISIANA.

Bertrand Laclaverie, Adolphe Capiton, Ferreol Artigue, Joseph J. Chapon, Louis Vigires, Albert Weber, and Guillaume Peres as directors, have incorporated at New Orleans, La., the Arabian Disinfectant Co., capital stock \$50,000, to manufacture disinfectants.

James Jones will erect a saw and planing mill at New Orleans, La., if permit is given.

The J. A. Blaffer Brick & Lumber Co., capital stock \$75,000, has been incorporated at New Orleans, La., with John A. Blaffer, James Gill, H. L. Blanchard, N. R. Pepin and G. A. Blaffer as incorporators and directors, to manufacture all kinds of lumber and bricks.

## MARYLAND.

David Eavland will erect a saw mill near Greensborough, Md.

Moses Brownold, Gabriel Rosenfeld, Maurice J. Lehmayr, Charles Kaiser and George J. Roche have incorporated at Baltimore, the United States Prismatic Light Co., capital stock \$100,000, to manufacture lenses.

The Ford Acme Renovator Co., reported last week as incorporated at Baltimore, will locate their factory, for manufacturing a cleansing compound, at 19 Commerce street.

The Baltimore & Calverton Live Stock & Abattoir Co., capital stock \$200,000, has been incorporated, at Baltimore, by Charles Rohr, Elias Rohr, Harry E. Reinhard, Jacob Meyer, Jacob Rose and others, to slaughter cattle, sheep and hogs, and manufacture and dispose of the offal.

Swift & Ould, Perryman's, Md., have erected a corn and feed mill.

A company is being organized at Cumberland, Md., to bore for natural gas and oil.

The Bay Ridge & Annapolis Railroad Co., capital stock \$50,000, has been incorporated by Joseph B. Reed and H. D. Hughes, of Philadelphia; J. Wirt Randall and James H. Vansant, of Annapolis, and Hugh L. Bond, Jr., of Baltimore. The road will extend from Bay Ridge to Annapolis, Md.

William Funk & Co., Greenfield, Md., have erected a saw mill.

## MISSISSIPPI.

Bills have been introduced in the Mississippi legislature to incorporate the New York, Mexican & Texas Air Line Railroad Co., and the Natchez Compress & Warehouse Co. This company will build the compress at Natchez, Miss., previously reported.

## NORTH CAROLINA.

The Piedmont Ranch & Lumber Co. will, it is reported, build a hotel, a flour mill and a saw mill at Piedmont Springs, N. C.

R. H. Cowan, Salisbury, N. C., is erecting a saw mill.

Sugg & Ormond are erecting a machine shop and foundry at Greenville, N. C.

Price & Loafman have erected corn mill machinery at Ringwood, N. C.

W. H. Weedon, Newton, N. C., will build a spoke and handle factory.

## SOUTH CAROLINA.

Machinery has been purchased for a steam laundry to be started at Columbia, S. C.

Barton & Smith are erecting a large planing mill at Greenville, S. C.

The Pelzer Manufacturing Co., Pelzer, S. C., will build a large addition to their cotton mill, to be filled with new machinery. The contract for building 30 houses for new operatives has been let.

J. C. Reville has started a sash, door and blind factory at Florence, S. C.

## TENNESSEE.

H. H. Williams, L. H. Hodge, J. O. Kirkpatrick, J. B. Ranson, J. H. Smith and W. D. Robeson have incorporated at Murfreesboro, Tenn., the Murfreesboro Red Cedar Works, to manufacture all kinds of wooden ware.

R. H. Mason & Co. will build a saw mill at Daylight, Tenn., soon.

B. F. Hester, Union City, Tenn., will erect a saw mill; wants catalogues and price-lists of machinery.

The capital stock of the East Tennessee Tobacco Manufacturing Co., reported last week as to be incorporated at Greeneville, Tenn., is \$7,000.

The Bluff City Stove Works, Memphis, Tenn., have increased their capital stock from \$75,000 to \$100,000, and will enlarge the capacity of their works.

James C. Warner, of the Warner Iron Co., Nashville, Tenn., and others have purchased the property of the Aetna Iron Co., in Dickson county, Tenn., and will erect an iron furnace. The capacity will be 40 tons.

William Rose, it is stated, will enlarge his stove factory at Chattanooga, Tenn.

Mr. Palmer contemplates starting a soap factory at Chattanooga, Tenn.

A. A. Strong & G. H. O'Mealy have, it is stated, erected a hub and spoke factory at Cowan, Tenn.

The Citico Furnace, at Chattanooga, Tenn., has blown out for repairs.

The Dayton Coal & Iron Co., Dayton, Tenn., have blown in one of their new furnaces, previously reported as being built.

## TEXAS.

The Farmers' Alliance are making arrangements to build a roller flour mill at Burleson, Texas.

Hillsboro, Texas, has appropriated \$10,000 to erect a school building.

Proposals will be received for building a court-house at Vernon, Texas, to cost about \$85,000.

A large saw mill is to be erected at Atlanta, Texas.

The Farmers' Alliance, of Montague county, Texas, will build a \$15,000 roller flour mill.

Mr. Patton and others, of Llano, Texas, have leased a tract of mining land near that place, which they will develop.

The Pearsall Mill Co., capital stock \$50,000, has been chartered at Pearsall, Texas, by R. W. Hudson, N. S. Scovill, C. W. Cox, O. A. Koehl, R. S. Long and others.

M. J. Fitzgerald, O. H. Hanna, S. R. Bullock, Emil Woltman and D. W. Duryea have incorporated, at Denison, Texas, the Denison City Water Co., capital stock \$200,000.

H. M. Mundy, J. J. Mundy and L. L. Mundy have incorporated at El Paso, Texas, the City Street Railway Co., capital stock \$25,000.

The Capital Ice Co., Austin, Texas, are putting new boilers in and making improvements at their factory.

T. A. Carter, Thomas Don and M. C. Wright have chartered at Fort Worth, Texas, the Star Cracker & Manufacturing Co., capital stock \$20,000. A large factory will be fitted up, the machinery for which is being negotiated for. A spice mill will be operated in connection with the factory.

The project of establishing a woolen mill is being worked up at Albany, Texas.

Several thousand dollars have been subscribed at Valley Mills, Texas, towards building a flour mill.

Negotiations are being made by capitalists for the establishment of a woolen factory at Belton, Texas.

S. W. Brooks has received the contract for erecting the court-house and jail at Hidalgo, Texas, previously reported. The cost will be about \$20,000.

Proposals are invited for building a court-house at Snyder, Texas, to cost \$20,000.

The flour mill reported last week to be erected at Dallas, Texas, by Todds & Stanley, will be erected for S. H. Cockrell & Co., owners of the Todd Mills. It will have a capacity of 250 barrels, making their total capacity 500 barrels daily.

A courthouse to cost about \$50,000 is to be built at Belleville, Texas, and a \$60,000 courthouse at Kaufman.

Williams Bros., Daingerfield, Texas., have fitted up a factory for manufacturing wagons and plows.

## VIRGINIA.

The Pemberton & Hill Manufacturing Co. has been chartered at Richmond, Va., to manufacture tobacco, with Charles D. Hill, as president; Thomas W. Pemberton, vice-president, and Charles E. Kersey; G. D. Wishart, of Liverpool, Eng.; John S. Wishart, of St. Louis, and M. J. Dohan, of Philadelphia, Pa., as directors. The capital stock is not to exceed \$150,000.

G. W. Simpson has recently started a handle factory at Salisbury Furnace, Va.

Sult, Weiser & Co., Wytheville, Va., will fit up a building for a carriage factory.

The Goodson Water Works Co. has been chartered at Goodson, Va.

Bills have been introduced in the Virginia legislature to authorize Warrenton to erect water works, and to incorporate the Ideal Beach Railroad Co., to extend from Norfolk to Sand Ridge, with John L. Roger, Thomas J. Notting, R. S. Dodson, F. M. Whitehurst and others as incorporators; the Henderson, Roanoke & Virginia Railroad Co., with Geo. P. Tarry, Charles D. Hill, Charles Watkins, R. E. Young and others as incorporators; the Surry & Smithfield Railroad Co., and the Bristol Slate Mining Co.

## WEST VIRGINIA.

The Shenandoah Milling Co., Charles-town, W. Va., are refitting their mill with roller process machinery, with capacity of 75 barrels per 24 hours.

Work will soon be commenced on the new water-works at Wellsburgh, W. Va., previously reported.

The Camden Consolidated Oil Co., Parkersburg, W. Va., will, it is reported, erect 13 additional stills and a plant for manufacturing gasoline at a cost of about \$25,000. The building of paraffine works is also contemplated.

Akin Harrah has purchased and will locate a steam saw mill at Meadow Bluff, W. Va.

## LOCKWOOD, GREENE & CO. MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I., Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.



**BURNED.**

Charles Steven's gin, near Monck's Corner, S. C.; loss \$2,500.

The Big Spring Flour Mill, owned by the Roanoke Land & Improvement Co., two miles from Roanoke, Va.

The flouring mill of John L. Kerver, near Frederick, Md.; loss \$4,000.

Mr. Garcia's gin, near Roma, Texas.

The flouring mill of Samuel M. Kefauver, one mile from Middleton, Md.; loss \$9,000.

Martin Helton's jug factory, near Jacob's Fork, N. C.

Alfred Hall's saw and grist mill, in Irwin county, Ga.

The flouring mill of W. T. Cunningham, Pamplin City, Va.

The bark mill of C. E. Heald, at Lynchburg, Va.; damaged \$2,000.

J. H. Hall & Son's tobacco factory, at Reidsville, N. C.

The flood last week at Port Deposit, Md., damaged Barnes & Archer's sash and door factory, \$5,000; W. W. Nickle's carriage factory, \$4,000; J. J. Buck's saw mill, several thousand dollars, and wrecked the planing mill of S. C. Rowland.

William J. Payne's saw mill, in Dorchester county, Md.

**Large Saw Mill.**

CHATTANOOGA, TENN., Feb. 13, 1886.

*Editor Manufacturers' Record:*

We have placed an order with the Stearns' Manufacturing Co., of Erie, Pa., for a complete mill outfit, consisting of one of their large (No. 1) double mills, a carriage to cut 45 feet long, with Prescott steam feed; gang edgers, automatic trimmers, live rolls, 18x24 engine, battery of 4 boilers, etc. We calculate to get 50,000 feet per day from this mill. The mill building will be 42x150 feet, with engine and boiler room separate. It is located on the Coosa river, in St. Clair county, Ala., 38 miles east of Birmingham, and is connected with the Georgia Pacific Railway by a half mile spur track. We hope to have it in operation by the 1st of June. We are now grading the side track and making excavations for foundations.

THE EMPIRE LUMBER CO.

**Fence Factory.**

ROME, GA., Feb. 15, 1886.

*Editor Manufacturers' Record:*

The Georgia Fence Co. has established a factory at Rome, Ga., which is now in full operation, supplying the great demand for our wire and picket fence. J. D. PONDER.

**Building New Works.**

HOPKINSVILLE, KY., Feb. 15, 1886.

*Editor Manufacturers' Record:*

We are now building our shop, 35x100 feet, two story, and will move our shop to this place about March 1st, 1886. We expect to make mill supplies a specialty, as well as doing a general repair business. We will enlarge our shops when we move here.

C. W. METCALFE.

**Cotton and Woolen Mill Wanted.**

CORSICANA, TEX., Feb. 9, 1886.

*Editor Manufacturers' Record:*

Our little city wants a cotton and a woolen mill, and our citizens will take stock readily to help a man or set of men start if they want help of this kind. Of course, would take stock with persons of known ability and integrity. Want such party to represent, say 1/2 to 4-5 of necessary capital. Our corporation will be liberal in franchise and exemption from taxes. We have fine water-works; large oil mill; flouring mill, built in 1885; will soon double its capacity. We are now building an elevator with capacity of 75,000 bushels. M. DRANE & SON.

**250-Barrel Flour Mill.**

DALLAS, TEXAS, Feb. 13, 1886.

*Editor Manufacturers' Record:*

We have given the contract for the erection of a 250-barrel mill to Messrs. Todds & Stanley, of St. Louis; expect to have the mill completed by June 1st. Our capacity will then be 500 barrels flour per day. The question of building a 500,000 bushel elevator is now being agitated, but as yet nothing definite has been done.

S. H. COCKRELL & CO.

NEW ORLEANS, LA., Feb. 14, 1886.

*Editor Manufacturers' Record:*

This company has purchased all the assets, &c., of the Riverside Saw and Planing Mills and the Riverside Brick Works, which two establishments have consolidated, with a capital of \$75,000, under the name of THE J. A. BLAFFER BRICK & LUMBER CO.

**Flour Mill.**

MCGREGOR, TEX., Feb. 9, 1886.

*Editor Manufacturers' Record:*

I am building a new process steam flouring mill of 100 barrels capacity per day.

J. W. KIRKPATRICK.

**To Manufacture Machinery.**

MARION, ALA., Feb. 13, 1886.

*Editor Manufacturers' Record:*

We have organized for the purpose of manufacturing agricultural machinery. We will begin at once.

NELSON, LEE & HOGUE.

**Tobacco Manufacturing Co.**

GREENEVILLE, TENN., Feb. 13, 1886.

*Editor Manufacturers' Record:*

The East Tennessee Tobacco Manufacturing Co. is organized, chartered and will go to work in the spring. Capital \$7,000. Will not build this year. S. R. B.

MORGANTON, N. C., Feb. 15, 1886.

*Editor Manufacturers' Record:*

We have not yet determined whether we will start a factory at this place or Hickory.

JOHNSON & JARBIN.

**Iron Furnace.**

NASHVILLE, TENN., Feb. 12, 1886.

*Editor Manufacturers' Record:*

Some friends and I have bought a majority of the stock of the Aetna Iron Company, and will proceed to build a furnace plant at once.

JAMES C. WARNER.

**Increasing Capacity.**

TUSKALOOSA, ALA., Feb. 13, 1886.

*Editor Manufacturers' Record:*

The new machinery that we have bought is en route; will increase our output 15%.

TUSKALOOSA MANUFACTURING CO.

FAYETTEVILLE, TENN., Feb. 13, 1886.

*Editor Manufacturers' Record:*

I have put up an engine and machinery for sawing building stone and marble.

LEWIS PEACH.

**Refitting Flour Mill.**

CHARLESTOWN, W. VA., Feb. 15, 1886.

*Editor Manufacturers' Record:*

We are putting in a complete system of the John T. Noye's Rolls. Work is being done by the John T. Noye Manufacturing Co., and will be completed by the 1st of March. The capacity of our mill is 75 barrels in 24 hours. In connection with our flour mill we have two burs, which we use in making bolted corn meal.

SHERANDOAH MILLING CO.

**Brick Yard.**

VICKSBURG, MISS., Feb. 14, 1886.

*Editor Manufacturers' Record:*

Tanner & Gregory will commence the manufacture of brick and terra cotta piping by machinery as soon as the machinery can be got into position. Will use a Penfield machine with all the latest improvements. Expect to make brick a specialty and make them in large quantities.

TANNER & GREGORY.

**Gas Works to be Enlarged.**

BALTIMORE, MD., Feb. 16, 1886.

*Editor Manufacturers' Record:*

We contemplate increasing the capacity of our water-gas system as early as practicable.

CONSOLIDATED GAS CO.,  
L. R. SMOOT, Secretary.

FLORENCE, S. C., Feb. 15, 1886.

*Editor Manufacturers' Record:*

I have started a sash, blind and door factory. My factory is small yet; \$3,000 worth of machinery is what I have started with, but will soon replenish. The name of the factory is Florence Planing Mill.

J. C. REVILL.

**Important Decision.**

The decision of Judge Shipman, recently filed in the case of the Hartford Machine Screw Company vs. Reynolds & Co., is one of unusual interest and importance. The patent involved is reissued letters patent number 9,290, dated July 13, 1880, to C. M. Spencer, assignor to the plaintiff company, for an automatic machine for making machine screws. This machine is a very ingenious and important one, and is destined to work as great a revolution in machine screw making, as was wrought in the art of wood screw making by the introduction of automatic machinery. The plaintiff company has several hundred machines working in this city, and several hundred more are being operated in this and foreign countries by its licensees. The machine may be described generally as an automatic machine for making screws one after another upon the end of a long metal rod, which is fed intermittently into the machine. The invention of Spencer extends to the entire mechanism, by which a machine, for feeding a rod in the intervals between the fashioning operation, is made automatic. This general statement will disclose to persons acquainted with the art of screw making a general idea of the great importance of Spencer's improvements.

It may be said generally that Spencer's invention is threefold, consisting, first, in the mechanism for feeding and rotating the rod; second, in the devices for fashioning the screws, and third, in the severing mechanism. All these are automatic, and one attendant can oversee the working of a number of machines. The suit just decided related specially to the automatic feeding and rotating mechanism, consisting of a friction feed-tube within the mandril of the machine in combination with the mandril itself, and certain jaws and cams ingeniously contrived so as to time the several motions of the feed with reference to the work to be done by the fashioning and severing mechanisms. There is also in the combination a jaw closing sleeve, and the controversy, so far as infringement was concerned, related to the location of this sleeve. The defendants claimed that in their machine the sleeve being on the outside of the mandril instead of within the mandril, there could be no infringement. The court held this claim to be untenable and construed the plaintiff's patent so as to cover the feed combination, whether the jaw closing sleeve was within or without the mandril.

The defence also claimed that the re-issue was void for expansion and that the invention was anticipated. The proof to the con-

trary was, however, overwhelming in its nature, and both claims were decided by the court adversely to the defendant, against whom the court ordered an injunction and an account.

The Hartford Machine Screw Company aside from being the owners of the Spencer principles, which may be described as the monitor or revolving turret system, are also the owners of the original Curtiss patents, the Stehli or Swiss invention of a later date, and others for the making of screws automatically, which gives them control of all the popular forms of screw machines made automatic, and to construct a machine without conflicting with some of their patents, would seem to be impossible. We understand that other suits will immediately be commenced under these various patents.—Hartford (Conn.) Evening Post.

**National Electric Light Association.**

The National Electric Light Association held its annual session in Baltimore last week. Some interesting papers were read, among them being one on the "Proper Construction and Maintenance of Circuits," by Mr. E. R. Meeks, of Kansas City; "Electricity as an Illuminant," by Dr. Otto Moses, New York; "The History and Progress of Electricity," by Mr. R. W. Ryan, of New York, the official stenographer of the association; "Electric Motors," by Mr. T. C. Martin, of New York; "Steam Power as Applied to Electricity," by Mr. F. Fasdick, of Fitchburg, Mass.; A. F. Upton, of Boston, and others; "Underground Wires," by Mr. Ralph W. Pope, of New York; "Operating Expenses," by Mr. E. R. Meeks, Kansas City; "Incandescent Lighting," by Dr. Otto Moses, of New York; "Carbons and Globes," by Mr. Frank Kidlon, of Boston; "Relations of Electric Light Companies to Insurance," by Mr. C. J. Woodbury, of Boston. A paper prepared by Charles Von Depoell, of Chicago, on "Electrical Transmission of Power" was read, strongly advocating it as a motive power on street railroads.

The convention adjourned to meet in Detroit, Mich., next August.

**Southern Progress.**

The fact is that the South does not know its indebtedness to the Baltimore MANUFACTURERS' RECORD in systematically and ably presenting Southern resources and progress to the country. For several years that paper has done that work in the most thorough and pains taking manner, and the result has been a gradual and general spread of information about our section, from which we are receiving constant benefit. The leading papers all over the country are reproducing the RECORD's facts and figures, and are making them the theme of complimentary editorial comment.—Atlanta (Ga.) Capitol.

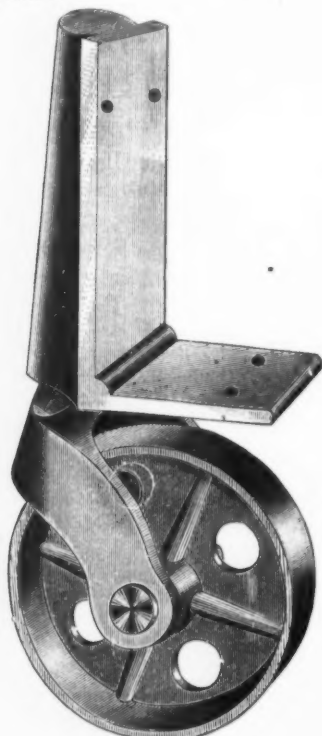
AN evidence of the success to be attained in journalism by energetic management, live, progressive policy, and persistent advocacy of the interests for which it was started, is exemplified in the MANUFACTURERS' RECORD, of this city, which this week entered upon its ninth volume. In championing the cause of Southern development it has rendered an incalculable amount of good in demonstrating the resources of the South. The paper is one of the handsomest typographical publications in the country.—Baltimore Every Saturday.

MR. WM. W. PATTERSON, P. O. Box 113, Staunton, Va., wants the address of parties who manufacture artesian well machinery.

If you are not already a subscriber to the BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

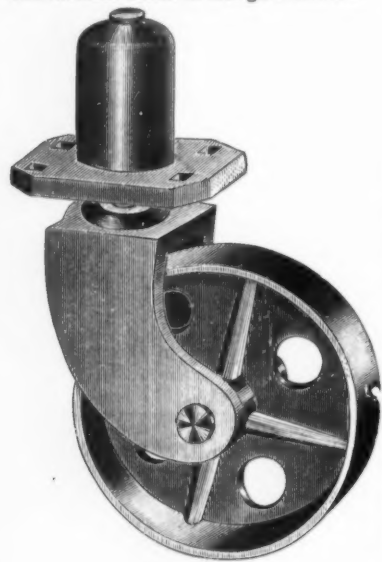
### Clark's Standard Iron Wheels and Castors.

We illustrate herewith a class of hardware, the production of which, to some observers, may seem inconspicuous, but it is, nevertheless, an important industry, and one of interest to all connected with the hardware trade. Its importance would be readily understood could we produce statistics to show the vast amount of material of all kinds in manufacture, commerce and transportation that is handled daily throughout the world by means of this useful class of hardware.



STYLE 52.

Mr. George P. Clark, of Windsor Locks, Conn., has for many years made a specialty of the truck and track wheel business, and his goods are well-known and extensively used throughout the United States, and to a considerable extent in foreign countries.



STYLE 54.

We can in this issue but note briefly the single branches of his business indicated above, viz: that of iron truck wheels and their adaptation to some classes of work.

As regards the line of all iron goods, Mr. Clark has carefully studied the wants of the trade in this direction and claims to produce work alike acceptable to dealer and consumer.

His plain truck wheels are made of good iron, well molded, and are buffed and turned to insure their running smooth and true. In connection with the plain wheels he supplies, when ordered, substantial well-twined axles with bolt holes, suitable for immediate attachment to truck boxes, etc.

Style No. 60 is a popular form of iron wheel socket castor, for use on heavy tables, in mills, kitchens, laboratories, etc. The sockets are made in different sizes to fit legs from 1 1/4" to 3" square.



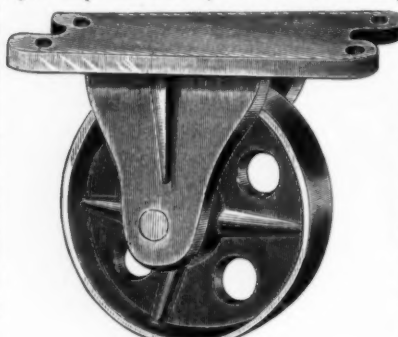
STYLE 58.

Style 54 represents a short stem castor for mill and warehouse work. The stem of it, (as well as those of Style 52 and 60,) is of wrought iron, in all respects strong and well made. It is largely used in mounting box trucks.

Style 56 represents a stationary castor, admirably adapted for light boxes or baskets.

Style 58 is also a stationary castor, but with heavier stand than Style 56, and is intended for large boxes. It is often used in connection with bracket castor No. 52 in the manner shown by diagram No. 23. The manufacturer considers this much the best and cheapest way of mounting box trucks. Boxes mounted thus can be pushed forward, twined or handled in any way most quickly, and with the least exertion.

These cuts represent only the standard styles kept in stock by Mr. Clark; but he



STYLE 56.

has patterns of other shapes which can be made up at short notice.

He will be pleased to furnish catalogues free on application, and letters of inquiry will receive prompt and careful attention.

### Railroad Commissions.

A writer in the Lynchburg News reviewing some of the arguments of the advocates of a railroad commission, and more especially those of some of the farmers of Virginia, that low freight rates from the West have



STYLE 60.

greatly injured the farming interests of that State, says:

New York and Boston are not asking for legislation to prevent the railroads from bringing the early productions of Virginia

and the South to their doors at cheap rates. Oh, no; that would be old fogysm. Never in the memory "of the oldest inhabitant" has everything we want been more plentiful, or more conveniently gotten than at the present time. We have the delicate and lucious fruits of the tropics, the fresh fish of the ocean, the grapes of California, the coal of the West and the ice of the Kennebec, delivered not only at our doors, but put in your cellars and your pantries. Neither do I remember a time when the Virginia planter got more for his tobacco than now, besides contributing largely to the support of our government. And all this is brought about "by a discrimination of cheap freights over long distances" by the blessed railroads that are doing more for the country, more for the civilization of the world and the comforts of humanity than all else besides. Railroads and the printing press are the missionary crusaders. Railroads, therefore, are not the cause of the farming interests of Virginia being in "disrepute."

Like all other epidemics the railroad commission seems to be contagious; for now the different chambers of commerce have caught the political distemper (for I know not how else to distinguish it), and they have expressed about as many different opinions of the disease as there are members in the bodies; and each one has a different prescription for the railroad patient to swallow. So far I have seen no specified diagnosis of the disease those M. D.'s are attempting to cure.

Says one of our Lynchburg men: "I have to pay seven cents freight per bushel on corn from Amherst Court House, fifteen miles distant, when the miller can have it brought by the car load from Chicago for nine cents. Is that fair? Well, I must admit it looks very one-sided, to say the least of it, in favor of the Lynchburg miller, and against the railroads. But, unfortunately, there is no corn to ship from Amherst to Lynchburg. They are both buyers from the West; and both get the advantage of Chicago's low through freight. Now comes the Virginia miner with his ores and coal, and the tobacco men, to ship over long distances by a "discrimination of low freight" on an equal footing with the Chicago man and the Lynchburg miller. Without that they could ship nothing, even at the very lowest local rates a railroad could possibly handle and carry local freight. It would cost more than ores, coal or grain was worth to carry them to Philadelphia, New York or Boston. But says another: "The railroads charge more for carrying a barrel of flour within thirty or forty miles of Norfolk, Richmond, Alexandria or Bristol, than to the named points, and it costs no more to bring a barrel of flour from Chicago, 900 or 1,000 miles distant, than from Roanoke or Liberty—thirty miles—for thirty cents.

Now if we apply the Chicago through freight rate to Liberty, flour would cost about one cent per barrel freight; and if we apply the local rates of Liberty to Chicago, it would cost about \$9 per barrel freight. So neither horn of the dilemma will suit.

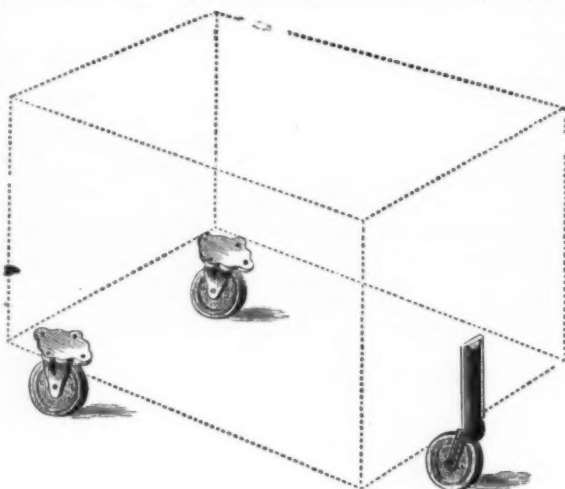
I am not one "one of them," like Mr. Slaughter, and not as well posted, but I know that when our roads have but a single track, the difference between local and through freight must be very great. Supposing a train starts from Lynchburg to Alexandria, and has to put off a barrel of flour or a bale of hay at every cross road, siding or depot on the line; it would take a long time to get through, and not only that, it would in-

terfere with the regular mail time and passenger trains, jeopardizing the lives of travelers. I don't think travel would go upon a road conducted in such a way. Railroad accidents are mostly caused by local freight trains. We can all remember before the consolidation of the Virginia and Tennessee and the Southside roads, travel had quit going on that line on account of the high bridge that was considered hazardous; but every freight train having local freight would be worse than that. With a through freight without stoppage it would be entirely different, and railroad men by a long experience have got this thing down to a point—but not yet perhaps to the lowest point.

Thirty years ago we had a war of railroad gauges, upon which was based political issues. Each State was selfish enough to have her roads of a gauge different from her neighbor, to prevent competition and give a break of bulk. This they thought would be the means of building up cities for themselves; but instead, it made the products of the manufactories of the North cost too high to bring South and the productions of the South cost too much to get to the Northern market, on account of so much change and break of bulk, and every line of road charging its local rates. The results were not as expected. The roads were unprofitable, and the cities unprogressive.

Supply and demand unrestricted is the only thing that can regulate trade; and that must be done through the merchant and the public carrier, and the less it costs to carry, the better for both the producer and consumer.

THE MANUFACTURERS' RECORD, which has just entered upon its ninth volume, is a paper



NO. 23.

of which not only its proprietors may well be proud, but the city also and the South. Its success from a business point of view has been remarkable, and—an even better thing in many respects—it has by energy, enterprise and a close adherence to sound economic principles, made for itself a strongly established reputation and a position in the front rank of the best trade journals of the country; and that its efforts in behalf of Southern development have considerably benefited the growing industries of the South is scarcely to be doubted.—Baltimore American.

THE MANUFACTURERS' RECORD is an able and enterprising paper. The amount of information it gives on industrial matters is wonderful. A journal of this character must be a great help in the development and advancement of the Southern section of our country. There is every reason to believe that manufactures in the South will pay, and all that is necessary is to convince capitalists of this truth. With free labor, a genial climate and abundant resources, no better country can be found on earth.—Frederick (Md.) News.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$3.00 a year.



**Sellers' Double Axle Lathe.**

We illustrate in this issue a double-headed axle lathe designed and manufactured by Messrs. William Sellers & Co., of Philadelphia, who inform us that during the year 1851 they sold the first lot of double axle lathes made by them. These lathes embodied many of the important features of the tool they now build, but differed in details of construction. For instance, they arranged the central driving head with a Clement's driver, carried on universal joints, so as to vibrate in any direction needed to accommodate itself to the inequalities of the rough axle, and to compel rotation without strain on the axle, other than torsion, and provided independent power feeds to each of the two slide rests.

Examples of the Sellers lathe of 1851 are still in use, but, as constructed, it failed to meet their expectations, so far as quantity of work was concerned; and it was found that their single axle lathe when improved to its present efficiency, though turning only one end at a time, was capable of doing as much work as the old double machine. During the 34 years intervening between the design of these lathes and the present time, they have turned their attention to perfecting the single lathe, adapting it to the requirements of the increased size of axles and to the turning of steel in the place of wrought iron. In perfecting the single lathe they claim to have so arranged the parts as to reduce to the minimum the time of handling the lathe and the time required to adjust the axle, apart from its actual work in cutting, demonstrating the great advantage of saving time between cuts in increasing the output of the tool. In the light of the present state of the art of axle turning, Wm. Sellers & Co. have now designed an axle

spindle, thus insuring a condition of absolute stability under rotation.

They introduce all the devices found so effective in the dead-heads in the slide-rests, and in the feed-motion of their regular axle lathe, adding to this machine a crane that does away with all objection that can be urged against the double lathe on the score of time lost in setting the axle. To a post behind the lathes, but attached to it near to the center of the length of the bed, is swung a horizontal jib carrying the hand-hoisting gear. This jib is suspended at some distance from the side of the vertical post, so that it will swing around it, and when directly over the lathe bed will be in line with and directly over the axis of the lathe. When it is at such an angle as will permit the swinging axle to pass the fixed poppet head, the axle can then be thrust through the spindle until its center coincides with the center of the driving spindle, and the axle is thus placed in centers without any other movement of the swinging jib. The center is reached, as stated above, by means of a

the adjustment of the tool and in the quick operation of all the hand movements are the same on this lathe as on their single lathe.

The double lathe takes up less space than two single lathes, and, as arranged for getting the work in, should yield better results in time than two single lathes run by the same workman, as the time of turning the same axle end for end is saved.

An independent stop motion is provided to each of the slide rests, so that if from neglect they are permitted to feed up to the center head the power feed will be thrown out, thus preventing damage. A tool shelf is placed near to the driving-head, where it is convenient for the workman to place his gauges and extra tools.

**Ice Cream Freezers.**

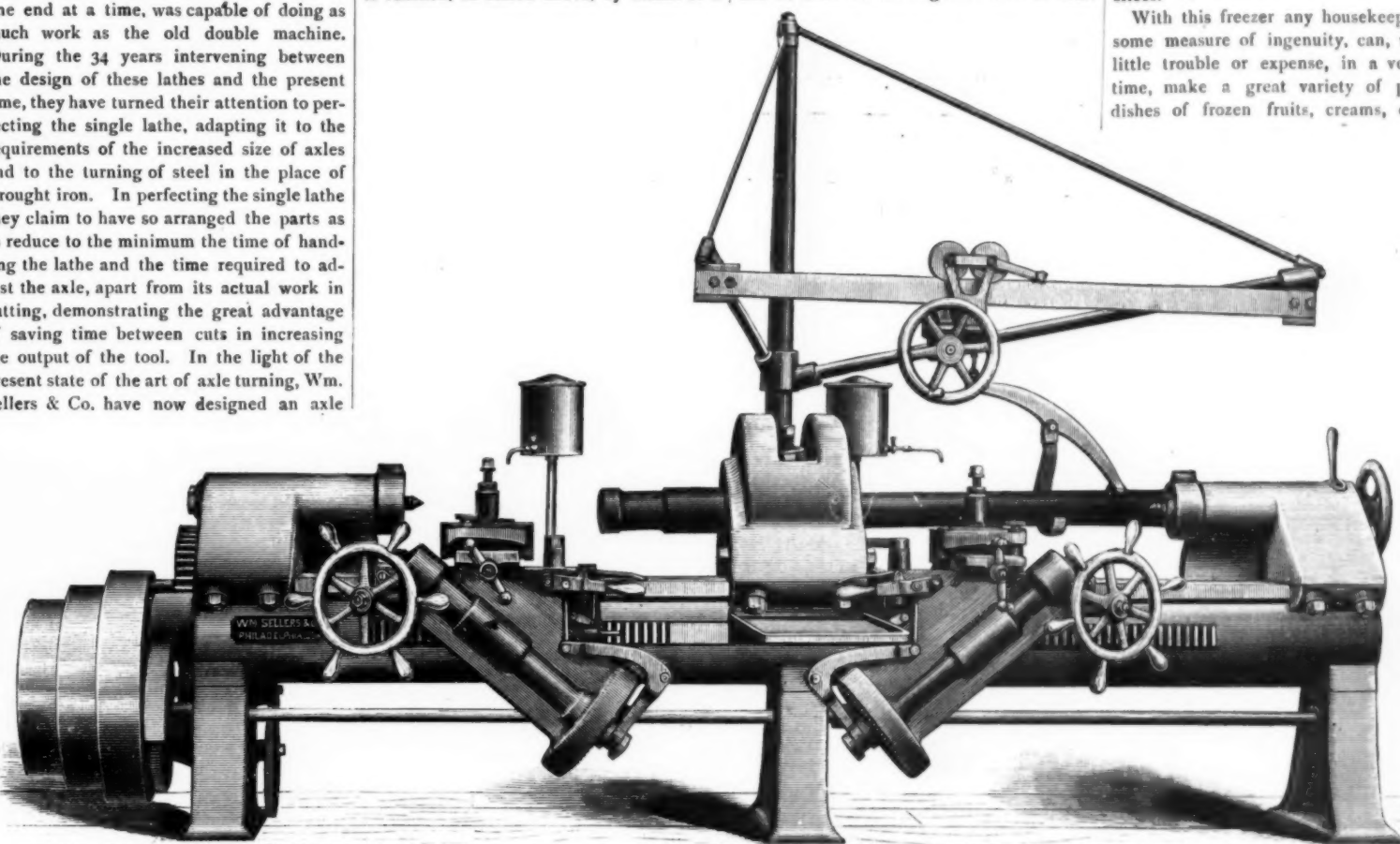
The "Peerless" Gooch Freezer does its work quickly, with little power. Besides its use for making ice cream and sherbets, it can be used for making all kinds of fruit

the center leaf works it into the cream, aerating it to agreeable lightness.

When the cream is all evenly frozen and mixed, the dasher can be removed, and the can may be revolved without it, until the cream is sufficiently solid. In this manner the hardening is rapidly done. The crank may be used at the top or side of the freezer, as preferred. These valuable characteristics are peculiar to the "Peerless" Gooch Freezer, and in them lie its claims to superiority.

Fruit ices are also peculiar to this freezer. When the cream is frozen and rubbed smooth, but before it hardens, remove the dasher, and put in strawberries, pine-apple, orange or other fruit, which mixes readily with the cream. Then set the can revolving without the dasher to thoroughly harden the mass. When wanted for the table, remove the cover, invert the can over a plate, and apply a cloth wet with hot water to the outside of the can, when the solid mass of cream is deposited on a plate, to be cut in slices.

With this freezer any housekeeper, with some measure of ingenuity, can, with but little trouble or expense, in a very short time, make a great variety of palatable dishes of frozen fruits, creams, custards,



SELLERS' DOUBLE AXLE LATHE.

lathe to turn both ends of the axle at the same time, in which tool they introduce the features prominent in their lathe 1851, but under the more favorable circumstances of having a larger and stiffer axle to work on than was the case in 1851, and in the introduction of improved methods of turning, combined with special contrivances to enable them to put the work in and out with greater despatch. Thus, while they use a driver in principle the same as that built by them in 1851, yet from having a new and better manner of placing the axle, they can make the opening in the spindle smaller for a larger axle, and obtain bearings not too large in diameter and of equal length on each side of the driver. They place the axle between the centers before the driver is attached, and then tighten up the driver through a gap in the middle of the driving head, thus taking hold of the center of the axle in the middle of the driving spindle, and the power to turn the spindle is also applied directly in the middle of the driving

peculiar hook combined with a strut that is as readily applied as a single hook, and while it catches the axle out of center far enough to clear the head, yet by means of an arm it carries the center of the axle directly under the center of the hoisting carriage. Axles placed behind the lathe bed and parallel with it can be taken by this crane, lifted to the right height very quickly, swung into place from the end to pass through the live-head spindle, and then brought into line of the centers; the axle taking its place as readily as if there was no driving machinery in the middle of the bed to complicate the problem of setting.

The improved method of getting the axle into the machine makes a vital difference between the tool and all others that have preceded it. This new lathe is capable of taking as heavy a cut on both ends of an axle at the same time as their single lathe will take on one. In other words, it has twice the driving power. The feeds are the same, and all the devices found so useful in

creams, frozen fruits, custards, jellies, blanc-mange, etc., greatly extending its use over an ordinary freezer, and increasing its usefulness in any family.

It has no complications beyond the capacity of a child. With one hand all its parts may be set in exact place, the cream frozen and removed.

The can sets squarely anywhere. The dasher is self-adjusting, and when placed in the can, goes directly to its center and rest, whether the can is filled with cream or not. The can and the dasher revolve in opposite directions, but the dasher turns with greater speed, and rapidly rubs the cream to perfect fineness. One arm of the dasher detaches the frozen cream from the sides of the can and whirled it to the center, while the other, following, spreads the liquid cream upon the sides of the can, alternately freezing and removing, which makes the work more rapid and cream even. The vacuum behind the detaching leaf, produced by its revolutions, draws the air to the bottom of the can, when

jellies, blanc-mange, etc., which have been heretofore only obtainable from city caterers. The "Giant" Gooch freezer, for confectioners and hotels, is a complete and strong machine. They have all the improvements of the "Peerless" freezer, and in addition are so heavy and strongly made as to scarcely ever require repairs. These freezers are made by the Gooch Freezer Co., Cincinnati, Ohio.

It is self-evident that the industrial advance of the South during the last few years has been marvelous, and there is every indication that it is a thoroughly healthy and permanent growth. It is no sudden matter, but rather only the beginning of the wonderful advancement the South is about to make in adding to its own and the nation's wealth. A surplus of a full hundred millions this year will fit it for more than doubling that surplus next year, and the next decade will witness the South closely pressing the North in every channel availa-

ble for industry. The South will largely multiply its demand for iron and coal within the next few years, and furnish the iron and coal from its own mines and furnaces; and the day is close at hand when its cotton will be all spun and mainly woven by its water-power and its labor. And when furnaces and cotton mills dot the South wherever needed, every form of diversified industry will follow. It is fairly probable that the next decade will present a more prosperous industry in the South than in the North. There are many natural causes to contribute to that result, and the Southern people are now, for the first time, prepared to utilize their great advantages. This growth does not mean paralysis or decay in Northern industry, but that what the South can do better for itself than the North can do for it will be done by its own enterprise;

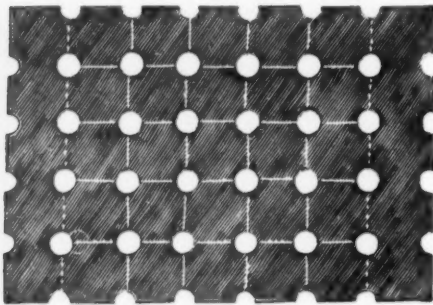


FIG. 1.

and the progressive people of the North will readily adapt themselves to the new order of things. The new wealth of the South will be largely diffused throughout the North, and Southern prosperity will mean the common prosperity of the whole country.—Iron, Philadelphia.

### The Ripe Fruit Carrier.

Every practical grower and shipper of fruits as well as every commission merchant and retailer of them, has experienced the necessity of placing good fruits only in market, and in a more mature and better condition; and every consumer is interested in it. The Ripe Fruit Carrier, manufactured by Messrs. Jenkins, McGuire & Co., Baltimore, Md., is claimed to meet this necessity. The Ripe Fruit Carrier is made of pasteboard into perfectly ventilated cells, of sizes to suit the fruit, and all wrapping is dispensed with.

It may be crated as one may fancy, or with plank and common laths, into any size package to suit the shipper, but bushel crates are recommended, and rare and choice fruits may be put into light skeleton packages of a peck or half-peck before crating.

It is similar to the egg carrier, but it is ventilated and adjustable, and is said to carry ripe peaches, tomatoes, oranges, pears, delicate apples, Japanese persimmons, figs, etc., in perfection. All wrapping, drying-houses, sizing-machines, etc., are dispensed with. It classes the fruit, makes it uniform throughout the crate, and each specimen being in a house to itself with eight windows, is free from heating or rubbing, and so braced that a slatted crate in which the fillers are encased is strong and stable, even with lighter head-pieces than are used in ordinary packing.

Figure 1 represents the flat as it is to be packed for shipment to growers; the squares show where the fruit rests.

Figure 2 represents the cross pieces to be placed in the flat to form the cells.

Figure 3 represents an orange crate with one end unslatted, showing cover upturned. It contains eight fillers and two covers. The fillers are made with cells of any size, and fruit must fit tightly in cell.

The ventilating openings are so arranged that no specimen touches another or a rough surface; the fruit can't mash; its tendency is to dry from the time it enters the cells, and matured fruit only need be shipped.

### The Alabama Coal Consolidation.

In our Birmingham letter will be found an account of the recent meeting of owners of lands in the Warrior coal field, held with a view to forming a combination for the purpose of preventing competition in the sale of land and keeping up prices.

The Montgomery (Ala.) Daily Advertiser has the following editorial on this subject:

The news from Birmingham is alarming to every man who values the safety and prosperity of Alabama. It is high time a signal were flung to the winds that the people may gaze on it and know beforehand the danger that confronts them. The commands of monopoly and the loud cry of the workingman have reached us hitherto as the distant mutterings of a storm from whose fury we

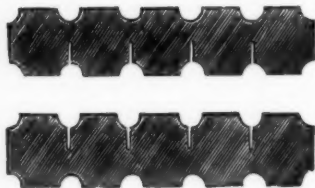


FIG. 2.

rested in the shelter of security. But the low sounds have come nearer and nearer till the echo and the voice are one. They are with us, hoarse, distinct, thundering their menace into all our ears.

The development of our mineral region has been the glory and the pride of Alabama. It has built many fortunes, busied many hands and gladdened many hearts. It has been not without its evil wishing of the few to own the earth, but on the whole has proceeded with harmony and symmetry. Individuals and corporations have bought more lands than they could utilize, and speculators have gobbled with unsatisfied greed.



FIG. 3.

Still there was always plenty left, and the number of enterprises has multiplied with gratifying regularity. Competition was kept alive, for profit were too inviting in the open field for the coal beds to become the nursery of combination. Individuals here and companies there, have bought lands, built their plants, erected their machinery and constructed railroads, and there was no end nor limit to the great hum of industry and progress and prosperity. Alabama was to be the seat and center of free, untrammelled enterprise—the workingman's paradise.

So we thought once. Have we been wrong in thinking so?

On Wednesday the capitalists and the companies owning lands in the Warrior coal field met in Birmingham for the purpose of combining their interests into one grand corporation or combination, or by whatever other name the devilish thing may come to be known. The number of companies and individuals represented was seventeen, and their combined possessions 244,700 acres of coal lands. One man said all the lands

represented were the most valuable in the Warrior field, and the rest concurred in that belief. The proposition was made to form a new corporation, and that all the lands represented be transferred to this new company. Capt. J. F. Johnston was the mover of the plan, and we quote from the Age the account of what he said:

"Mr. Johnston moved that a new corporation be formed, and the lands of the several companies represented be transferred to this new company. He thought a committee should be appointed to formulate a plan of operation, and fix the price of the lands. He regarded it as a measure of economy to consolidate all these lands, and, at the same time all competition would be broken down, either for buying or selling. Another advantage was that the lands could be solidified, and their value would be greatly enhanced by being in compact bodies."

In this Col. Ensley concurred, and so did many others, and the single solitary voice raised against this monstrous thing came from Montgomery. It was the voice of an ex-Mayor of this city. Mr. M. L. Moses "thought it would retard the development of the coal interests of the State." A voice crying in the wilderness! for what could one feeble protest contrive against the greedy advocates of monopoly, with appetites whetted by what they had fed on?

A committee was appointed to fix the relative value of the lands as a basis on which they were to be entered as part of the property of the corporation. This committee afterward met and readily agreed on these values.

The Age concludes its account as follows: "If the consolidation is carried out it will make the largest coal combination in the world. It will practically monopolize all the productive coal lands in the Warrior coal field."

Should it ever be carried out, the day that sees it will hear the knell of industrial freedom in Alabama. A chain will have been forged for the free limbs of progress and the fetters we shall never break. Gigantic as this monopoly will be, the consolidation of 247,000 acres of coal lands will be but the starting point, a lusty infant stretching itself to fabulous growth. Besides it the coal and iron and steel monopolies of Pennsylvania will cover like modest violets in the shadow of a sunflower. It will have the field to itself. It will break down all opposition and absorb all rivals. The owners of small properties cannot afford to enter the markets against it and will be compelled to sell at the monopoly's own price. Owners of plants already in operation will be forced into it in self-defence. It will add acre after acre to its domain, and agency after agency will be brought in to subserve its power. So gigantic in its birth, what will it be in the full flush of its maturity?

We speak strongly in this matter because we feel deeply. Monopoly is insidious. It begins with smiles and fair promises, and the cry of "development" is its catch word to win the people till it can command them. This coal corporation would probably do some great things at first, in the building of new industries. It can put forward claims

to development and progress that will sound as sweetly to the ear of enterprise as church bells to the Christian. But 'twill end in a dozen kings and a million paupers.

Can anything be done to arrest this monopoly ere it be too late? At every spasm that has heralded its coming we, the people and the press, have thrown high our ready caps in the air. We have mistaken the symptoms of disease for landmarks of progress, and if this bold eruption shall come to head, all remedies and preventives will be but "might have beens."

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XX.....	1 25 1 25 1 35 1 60 2 00 set.
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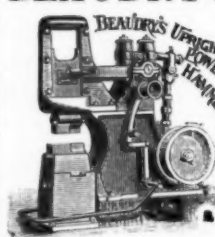
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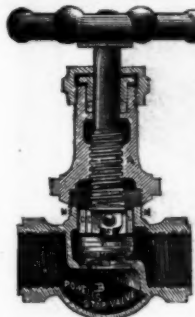
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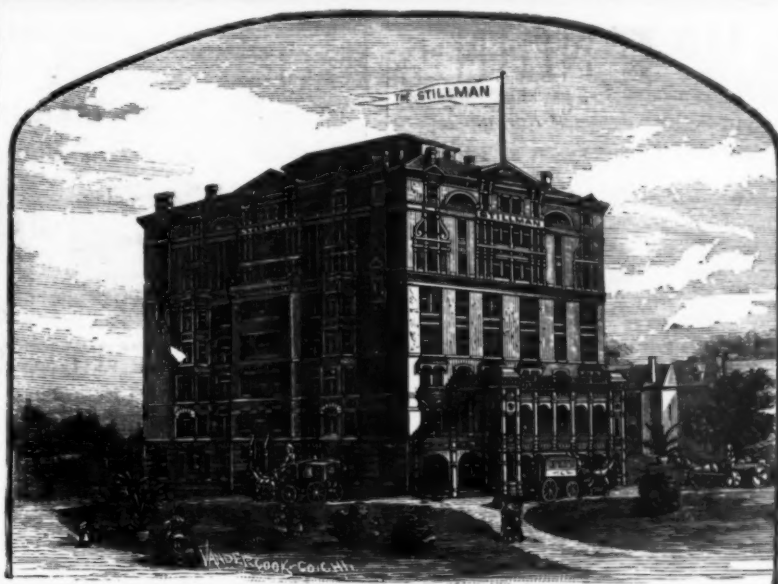
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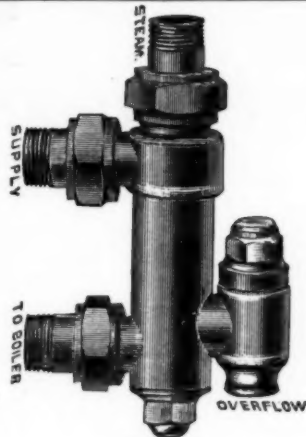
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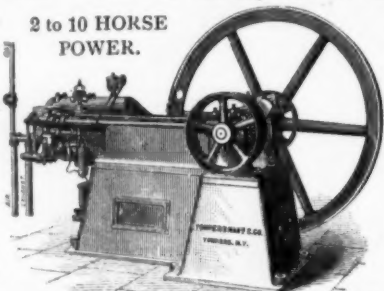
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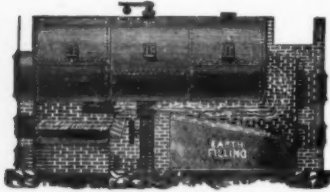


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Phosphate Mining Co., Beaufort, S. C.  
Brush Swan Electric Light Co., Norfolk, Va.  
Columbus Ice & Refrigerator Co., Colum-  
bus, Ga.  
Lenoir Manufacturing Co., Lenoir, East  
Tennessee.  
Vanclose Mill, Graniteville, S. C.

## HOWARD IRON WORKS, BUFFALO, N. Y.,

MANUFACTURERS OF

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## BOLT CUTTER

And Nut Tapping Machines

In use in the principal Railroad and Machine shops in the Country.

SEND FOR CIRCULAR PRICE-LISTS.

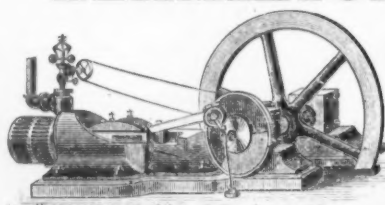


Manufacturers of COVERT'S Celebrated Harness Snaps, Swivel Snaps, Open Eye  
Bit and Chain Snaps, Snap and Thimble for Horse and Cattle Ties; ROPE GOODS,  
consisting of Web and Rope,  
Halters, Rope Horse and  
Cattle Ties, Web Horse Ties,  
Halter Leads, Driving Reins,  
Weight Cords, Hammock  
Ropes, Hitching Cords, Lariat  
Tethers and Picket Pins.

Also, Leather Horse Ties, Etc. Breast Chains, Heel Chains, Chain Cow  
Ties, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Butt  
Chains, Back or Cart Chains, Log Chains, Stake Chains, Trace Chains.  
Also, STUD, CABLE AND COIL CHAIN. CHAINS OF ALL KINDS  
MADE FROM SAMPLE OR DRAWING.  
PATENT ADJUSTABLE SOLDERING IRONS.

Send for Illus-  
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WILLIAM TOD & CO.

YOUNGSTOWN, OHIO,

SOLE BUILDERS OF THE

PORTER-HAMILTON ENGINE

50 to 500 Horse-Power. Modern design. PLAIN, STRONG, EFFECTIVE, ECONOMICAL.  
COSTS LESS THAN ANY OTHER FIRST-CLASS ENGINE. Send for Photograph.

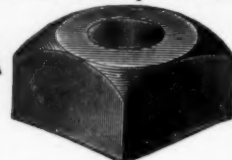
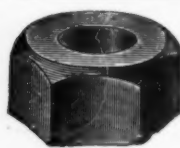
BLAST FURNACE ENGINES ON HAND.

Also a stock of other engines (our make.) Prices and description on application.

## HOOPES & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



KEYSTONE BOILER RIVETS.

Cold-Punched Square and Hexagon Nuts.

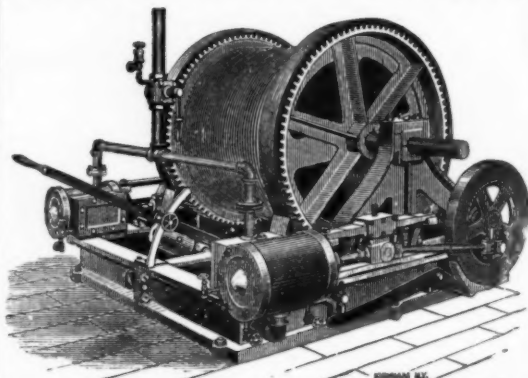
Finished and Case-Hardened Steel Hexagon Nuts.

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

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## IMPROVED HOISTING ENGINES



—WITH—  
WIRE-ROPE DRUMS  
AND  
SAFETY BRAKES.

SPECIALLY ADAPTED TO  
Mining & Interests.

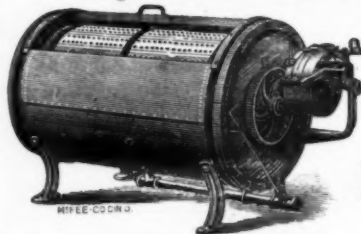
MANUFACTURED BY THE  
Lidgerwood Mfg. Co.  
96 Liberty St., N. Y.

Hoisting Engines for all purposes.

MORTON, REED & CO., Agts.  
59 & 61 German St., Baltimore.

## Laundry Machinery.

Largest Stock. Latest Improvements. Fullest Line.



Washing Machines,  
Ironing Machines,  
Centrifugal Machines,  
Mangles, Wringers, etc.  
BOILERS AND ENGINES.

—OUTFITS FOR—  
Hotels and Public Institutions

—A SPECIALTY.—

The A. M. DOLPH CO.

295 Wabash Avenue,  
CHICAGO, ILL.

Cor. 9th St. and Freeman Ave.,  
CINCINNATI, O.

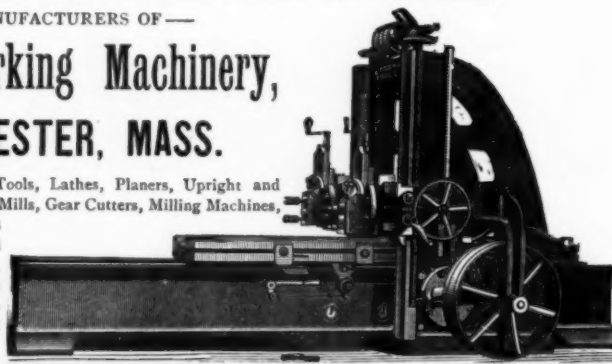
## POND MACHINE TOOL CO.

Successors to DAVID W. POND,

—MANUFACTURERS OF—

Iron Working Machinery,  
WORCESTER, MASS.

Special Railroad Tools, Lathes, Planers, Upright and  
Radial Drills, Boring Mills, Gear Cutters, Milling Machines,  
Patent shafting Lathes  
Hand Punches and  
Shears, Planer Chucks.  
Special machinery in  
great variety. Esti-  
mates furnished. Send  
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## Southwark Foundry & Machine Co.

430 WASHINGTON AVE., PHILADELPHIA, PA.

Porter-Allen and Southwark Engines, Blowing  
Engines, Gas Apparatus, Hydraulic Machinery.



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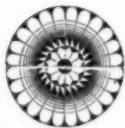
A Good Water Wheel Increases  
the Value of Your  
Whole Plant.

GET THE BEST AT FIRST AND AVOID THE  
EXPENSE AND DELAY OF CHANGING  
THE WHEELS.

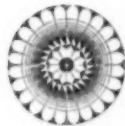
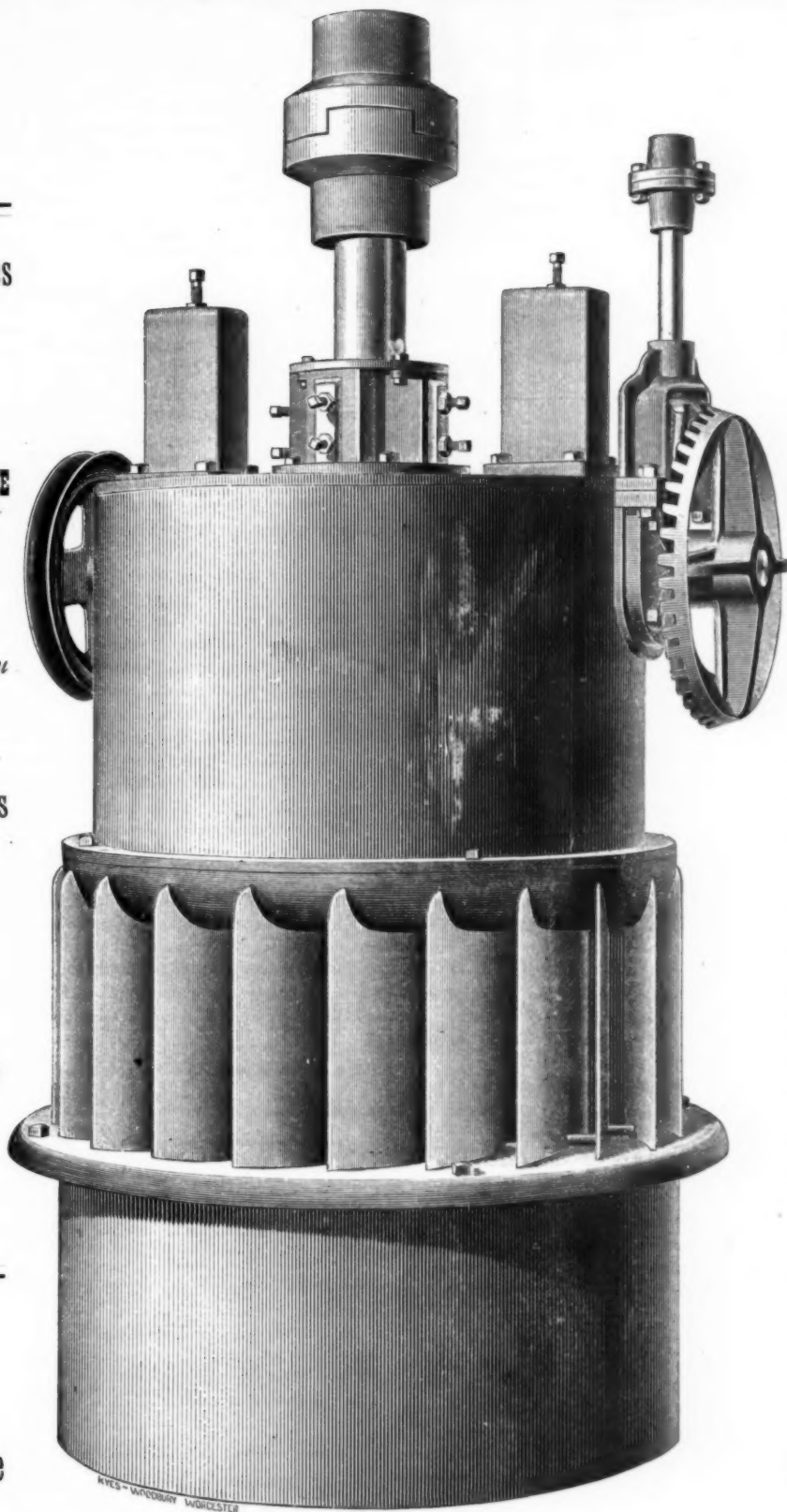
A Good Wheel Will Serve You  
Well for Twenty Years.

THE BEST IS THE CHEAPEST. IT DOES  
MORE WORK, LASTS LONGER, AND  
COSTS NO MORE FOR GEARS  
AND SETTING THAN A  
COMMON WHEEL.

The Hercules Gives the Most Power for its Size  
and the Highest Average Percentage  
from Full to One-Half Gate of  
any Wheel Ever Made.



Below we give the Names of the



When it is considered that  
the HOLYOKE WATER  
POWER COMPANY test  
every wheel that is put in in  
Holyoke, and use the wheels  
as a guage or meter for mea-  
suring the water to the  
manufacturers and charge  
them for the actual quantity  
of water used, it will be seen  
that the HERCULES stands  
first in the estimation of  
Holyoke manufacturers as an  
economical wheel in the use  
of water for the amount of  
power produced. The HER-  
CULES, we believe, is the  
only wheel of which all the  
sizes, both right and left hand,  
have been tested, some of  
them many times, and all  
brought to the standard of  
excellence which has been  
set by the makers and de-  
manded by their customers.



Mills in Holyoke, Mass., using

## THE HERCULES WATER WHEELS

THE HEAD OF WATER ON THE WHEELS AND THE POWER FURNISHED BY THE HOLYOKE WATER POWER CO.:

	Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.
Albion Paper Company.....	39	25	255	1878
Albion Paper Company.....	24	25	115	1883
Albion Paper Company.....	45	27	445	1880
Albion Paper Company.....	30	27	200	1883
Chemical Paper Company.....	4-30	23	620	1880
Chemical Paper Company.....	5-18	23	275	1880
Chemical Paper Company.....	33	23	185	1880
Chemical Paper Company.....	42	23	325	1880
Chemical Paper Company.....	2-48	23	800	1880
Connecticut River Pulp Company.....	36	18	155	1881
Crocker Paper Company.....	39	25	300	1883
Farr Alpaca Company.....	48	19	300	1878
Franklin Paper Company.....	39	20	215	1883
Geo. R. Dickinson Paper Company.....	2-45	19	520	1883

	Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.
Geo. R. Dickinson Paper Company.....	36	19	170	1883
Holyoke Water Power Company.....	30	19	115	1882
Holyoke Warp Company.....	48	11	130	1879
Massachusetts Screw Company.....	27	19	90	1882
Merrick Thread Company.....	48	12	153	1880
Newton Paper Company.....	48	21	350	1881
Nonotuck Paper Company.....	48	29	370	1881
Nonotuck Paper Company.....	27	29	175	1881
Riverside Paper Company.....	48	20	325	1880
Syms & Dudley Paper Company.....	45	29	495	1881
Syms & Dudley Paper Company.....	24	29	140	1881
Springfield Blanket Company.....	36	18	155	1877
The Beebe & Holbrook Paper Co....	24	19	75	1884

	Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.
The Massasolt Paper Company.....	39	19	167	1883
Union Paper Company.....	45	20	285	1882
Union Paper Company.....	30	20	125	1882
Valley Paper Company.....	42	27	390	1882
Wauregan Paper Company.....	42	18	210	1879
Wauregan Paper Company.....	33	18	130	1882
Whiting Paper Company.....	27	18	85	1882
Whiting Paper Company.....	18	15	30	1880
Winona Paper Company.....	48	28	540	1880
Winona Paper Company.....	24	28	135	1880

Increase since..... 9,797  
Total .....10,576

Send for  
Catalogue  
No. 3.

HOLYOKE MACHINE COMPANY, Worcester, Mass.





**Louisville Iron Market.**

Specially reported by W. B. BELKNAP & Co., Nails, Wire, Iron, Hardware, Carriage and Wagon Goods.

LOUISVILLE, KY., Feb. 15, 1886.

Trade has not been of large volume for the past week; at the same time, it cannot be said to present any discouraging features. The ice which has been in our streets since the early part of January has not quite disappeared, nor has navigation upon the Ohio been fully resumed.

Bar iron is firm and buyers seem satisfied with the price. There is no large amount of it being contracted for, as is natural after a decided advance.

Sheet Iron.—There has been a marked advance in heavy sheet of some \$3 to \$4 above the lowest point reached. Light sheets being out of season, have not been affected to any great extent so far, and we are promised better prices in the spring.

Nails are just holding their own at prices which have been current for the past thirty days. The resumption of the steel works prevents any fears of scarcity.

Wire is held with extreme firmness by the manufacturers, and they all promise an advance early in March.

Nuts and washers seem to have advanced some \$3 or \$4 per ton, and a great deal of hardware from 5 to 10 per cent. We quote:

Bar Iron.....	1 80	@ 1 90
Crescent Steel.....	10	@ 12
Plow Steel slabs.....	2 50	@ 2 60
No. 27 Sheet.....	3 00	@ 3 20
Galvanized sheet, best.....	50	@ 55
Galvanized Iowa barb wire.....	4 75	@ 5 00
Burden Shoes.....	4 00	@ 4 10
Juniata Shoes.....	3 70	@ 3 75
Carriage Bolts.....	2 65	@ 2 75
Steel nails.....	2 50	@ 2 60
Iron Nails.....	8	@ 8 1/2
Rope, Sisal.....	12 1/2	@ 13
Rope, Manila.....	75	@ 80
Screws, American Screw Co's list.....	6 50	@ 6 75
Axes.....	25	@ 26
Cross cut saws, wide, per foot.....	21	@ 23
Cross cut saws, narrow, per foot.....	21	@ 23

With concessions to large or wholesale buyers.

**Chattanooga Iron Market.**

Specially reported by LOWE & TUCKER, Brokers and Commission.

CHATTANOOGA, TENN., Feb. 15, 1886.

The weather for the past week has been very unfavorable for general business purposes. Disagreeable cold rains have prevailed, which has had a tendency to check all lines of trade as well as the farming interests.

There is no particular change worthy of note in pig iron further than to state that the feeling, in reference to prices, is firm, and unless a more favorable turn should be manifested in the coke interests of Pennsylvania a general stiffening up of prices will take place.

Our manufacturing interests are well in hand, with plenty of orders. We continue quotations of the leading articles:

No. 1 Foundry.....	\$15 50	@ 16 50
No. 2 Foundry.....	14 50	@ 15 00
American Scotch.....	14 50	@ 15 50
Gray Forge.....	13 00	@ 14 00
Car-Wheel Iron.....	23 00	@ 25 00
Ores, Red and Brown.....	1 50	@ 2 25
Furnace Coke.....	2 00	@ 2 30
Nails, car-load lots, 30 days.....	—	@ —
Bar Iron, per 100 lb.....	—	@ 1 65
Old Rails.....	—	@ 18 50
Old Wheels.....	—	@ 14 50
Wrought Scrap, No. 1.....	—	@ 60
" " No. 2.....	—	@ 50
Cotton Tie Clippings.....	—	@ —
Cast Scrap.....	—	@ —
Railroad Splices.....	—	@ 1 75
Railroad spikes.....	—	@ 2 00
Light Steel Rails, long ton.....	—	@ —
Barb wire—Cambria link.....	—	@ —
Barbed wire—four point galvanized... ..	—	@ —
Barb ware.....	—	@ —

**St. Louis Iron Market.**

Specially reported by ROGERS, BROWN & Co., Gay Building, 304 N. 3rd street, St. Louis. W. H. SHIELDS, Manager.

ST. LOUIS, Feb. 15, 1886.

Owing to the coke strike in the Connells-ville district, as well as the eight hour agitation, the market is somewhat irregular. There is considerable inquiry for iron for delivery within the next three or four months at opening of navigation. We quote:

HOT-BLAST CHARCOAL.	
Missouri.....	\$17 50@18 50
Southern.....	18 50@19 50
Ohio.....	— @ —
COKE AND COAL.	
Missouri.....	17 50@18 50
Southern.....	17 50@19 00
American Scotch.....	18 00@21 00
MILL IRONS.	
Missouri.....	16 00@17 00
Southern.....	15 00@16 50
CAR-WHEEL AND MALLEABLE IRON.	
Southern.....	22 00@25 00
Lake Superior.....	22 00@24 00
MISCELLANEOUS.	
Old Wheels.....	16 00@17 00
Old Rails.....	21 50@22 00
Connellsville Coke, East St. Louis.....	5 30@ —
Iron, par.	—

**Important to Southerners.**

Persons arriving in New York via Cortlandt Street Ferry, by taking the 6th Avenue Elevated Train, corner Church and Cortlandt streets, can reach the Grand Union Hotel in 42d street, opposite Grand Central Depot, in twenty minutes, and save \$3 carriage hire. If en route to Saratoga or other summer resorts via Grand Central Depot, all baggage will be transferred from hotel to this depot free. 600 elegantly furnished rooms, \$1 and upwards per day. Restaurant the best and cheapest in the city. Families can live better for less money at this hotel than at any other first-class hotel in the city. †

T. M. Parker, Steel Stamps, Stencils, Hartford, Ct.

**AGENTS WANTED**

*In Every Town*

IN THE

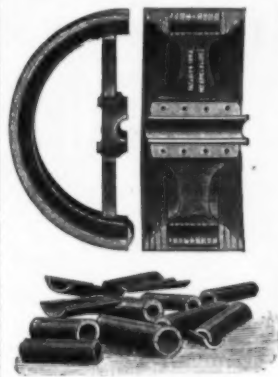
**SOUTH**

*To Solicit Subscriptions*

FOR THE

**Manufacturers'****Record.****References Required.**

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the **MANUFACTURERS' RECORD**. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

**Wood Split Pulleys.****MILBURN****Gin & Machine Co.**

MEMPHIS, TENN., U. S. A.

MANUFACTURERS OF

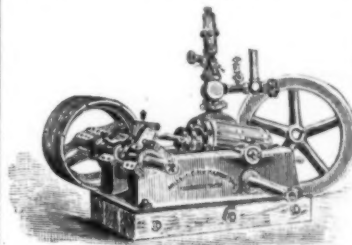
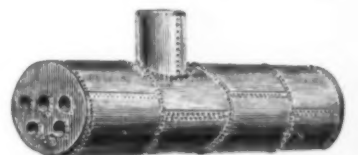
**STEAM ENGINES, BOILERS,**

(Made by the Tweedle system of hydraulic riveting).

**Cotton Gins, Gin Feeders and Condensers,**

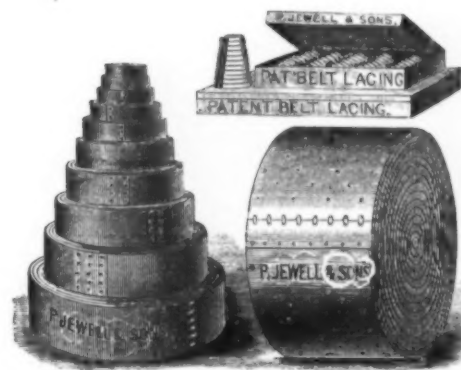
And the Celebrated "INDEPENDENCE" Wood Split Pulley, with Bushing System.

The best and lightest Pulley made. Every one guaranteed. Send for catalogue, testimonials and price-lists. We have the largest works of the kind in the world. Will send one of our Wood Split Pulleys to any responsible party, for thirty days' trial, free of charge, if it fails to meet our warranty.

**Milburn Gin & Machine Co.****JEWELL BELTING CO.**

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**LEATHER \* BELTING**

— AND —

**LACE LEATHER,**

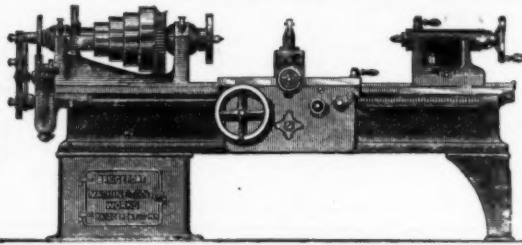
HARTFORD, CONN.





## E. P. BULLARD,

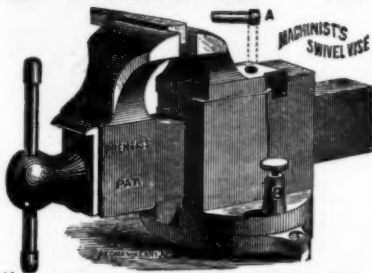
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Machine Tool  
WORKS.



14 DEY  
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"Peerless" (Swivel Jaw) Pipe Grip.  
Every Part Interchangeable.  
CAN BE USED ON ANY VISE.

Adjustable Jaw.  
Stationary or Pat. Swivel Bottoms  
CANNOT GET OUT OF ORDER.  
Cheapest and Best Vises for Railroad Shops, Ma-  
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"PEERLESS" (SWIVEL) PIPE GRIP.  
For Sale by the Trade.

PRENTISS VISE CO., 23 Dey Street, NEW YORK, Sole Proprietors

## Ludlow Valve Manfg. Co.

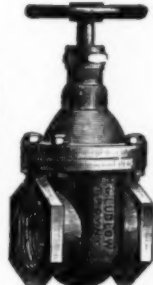
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—TROY, N. Y.—



VALVES  
Double and Single Gate, 1/8 inch to  
48 inch, outside and inside  
Screws, indicators, etc., for  
Gas, Water, Steam, Oil.  
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.

## The NORWALK ENGINES And Boilers



In Sizes from 4 to 60 H. P.  
THESE ENGINES CANNOT BE SURPASSED FOR  
SIMPLICITY OF CONSTRUCTION  
Nor Perfection of Workmanship.  
The smaller sizes are especially designed for running light  
machinery, such as Printing Presses, Cheese Factories,  
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Norwalk Machine Works, Norwalk, O.

## THE MIDVALE STEEL CO. TIRES and AXLES

OF EVERY DESCRIPTION.

TOOL-  
AND  
MACHINERY STEEL



STEEL.  
AND GUN

CRUCIBLE AND OPEN HEARTH STEEL.

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BRANCH OFFICE:  
333 Walnut St., Philadelphia, Pa.

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Engineers and Machinists, PHILADELPHIA, PA.

### Improved Machine Tools for Working Iron and Steel.

SHAFTING, PULLEYS, HANGERS, Etc., for Transmitting Power.  
IMPROVED SELF-ADJUSTING INJECTOR OF 1876, started, stopped and regulated as to capacity  
by one lever.

#### FIXED NOZZLE AUTOMATIC INJECTOR OF 1885.

Either a lifter or non-lifter; no extra valves or fittings required, tubes can be removed without disturbing  
pipe connections; is perfectly automatic in its action; requires no especial manipulation to operate it.  
Descriptive pamphlets and prices furnished on application to

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—SOLE MANUFACTURERS OF—

### TABOR STEAM ENGINE GOVERNOR

Patented April, 1883, and December, 1884.

WILL REGULATE AS CLOSELY AS THE BEST AUTOMATIC  
CUT-OFF ENGINE.

Perfectly adapted to every type of Stationary and Portable Engine.  
Fitted with speed adjuster, Sawyer's Lever and  
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All Parts Interchangeable.

SEND FOR SPECIAL CIRCULARS AND PRICE LISTS.

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Winding Engines,  
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FAIRBANKS & CO., Agents, Philadelphia, Pa.  
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References: { Croton Magnetic Iron Mines, Brewster's, N. Y.  
Crown Point Iron Co., Crown Point, N. Y.  
Belvidere Iron Co., 52 Broadway, N. Y.  
Sea Island Chemical Co., Beaufort, S. C.



## "STEAM"

A valuable book for every  
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MANUFACTURERS OF THE ORIGINAL

TRADE MARK.  
I.X.L.

Pipe Cutting and  
Threading Machine.

BEWARE OF IMITATIONS.  
None genuine without our Trade  
Mark and name. Also

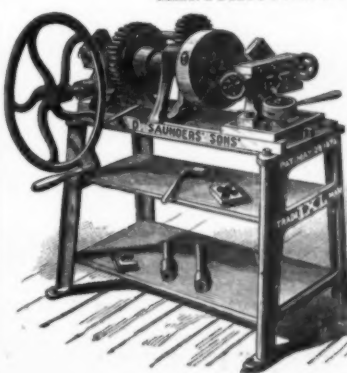
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STEAM AND GAS FITTERS'  
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For Pipe Mill Use a Specialty.  
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Largest Manufacturers of Tackle Blocks in the World.

Manufacturers of the Latest Improved Self-Adjusting ROLLER BUSHED and GENUINE METALINE BUSHED and Iron Bushed Rope and Iron Strapped

### TACKLE BLOCKS.

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Improved Self-Adjusting Roller Bushed Iron Sheave.

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Will supply estimates for laying double or single Railway Tunnels, Water Mains or Tubes across any bay or channel. Correspondence solicited.

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Electric Lighting Systems  
Furnished by writing for  
CATALOGUE No. 13 to

The BRUSH ELECTRIC CO., Cleveland, Ohio.

### For Sale or Lease.

The Glamorgan Foundry and Machine Works, at Lynchburg, Virginia. This is one of the best equipped Foundries and Machine Shops in the South, with ample water-power to run it. The machinery is of the most improved manufacture, and comparatively new. The buildings are wood, large and in good condition. Three separate lines of railroad pass almost by the works. The works are in splendid condition, and if taken hold of by competent men would pay well. Correspondence with the undersigned, for sale or lease, would receive prompt attention, and full particulars would be given.

W. H. WREN, Pres.,  
P. O. Box 268, Lynchburg, Va.



Hemacite Door Knobs.....New list, dis 33&amp;3



Door Mineral.....	Same discounts as Door Locks.
Door Por. Jap'd.....	
Door Por. Plated.....	
Door Por.....	
Furniture Plain.....	75c gross inch, dis 10%
Furniture, Wood Screws.....	dis 10%
Picture.....	dis 10%
Hemacite, Picture.....	dis 35%
Shutter, Porcelain.....	dis 50%
Melting & Skim'g, Monroe's Pat. #1.....	dis 40%
Melting, C & C.....	dis 30%
Acme Buckeye, Easy & Excelsior, new list.....	dis 40%
Linen Fish.....	dis 25%
Wire Clothes, Galvanized, 100 feet.....	dis 30%
LOCKS AND LATCHES.	
Cabinet, Eagle.....	Changes made in list price
Cabinet, Gaylord.....	of some numbers Jan. 1,
Cabinet, Bridgeport.....	1881, dis 25%
Cabinet, P. & F. Corbin.....	dis 40%
Trunk, new list, Jan. 1, 1881.....	dis 15%
Yale Lock Co., Flat Key.....	dis 40%
Plate.....	dis 33%
DOOR LOCKS, ETC.	
Bradford.....	
Norwalk.....	
P. & F. Corbin.....	List prices as revised
Russell & Erwin.....	Dec. 10th, 60c for
Mallory, Wheeler & Co.....	cash.
Nimick & Brittan Mfg. Co.....	dis 50%
Padlocks—Russell & Erwin.....	dis 70%
Mallory, Wheeler & Co.....	and 55c for cash.
Norwalk Lock Manf. Co.....	
Wm. Wilcox & Co.....	
Nimick & Brittan Mfg. Co.....	
Wm. Wilcox & Co's Plate Locks.....	dis 33%
Yale Lock Manf. Co's "Standard".....	dis 40%
Romer's.....	dis 25%
Conestoga.....	dis 80%
Scandinavian, "Norwich".....	dis 50%
Nimick & Brittan's Burglar-Proof Locks.....	dis 50%
MALLETS.	
Penfield Block Co., Apple, Hickory and	
Lignumvite.....	dis 30%
MEAT CUTTERS.	
Dixon's (P. S. & W.) Nos. 1, 2, 3, 4.....	dis 35%
Perry's, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.....	dis 30%
Each.....	dis 30%
Woodruff's (P. S. & W.) Nos. 100, 150.....	dis 35%
Each.....	dis 35%
Hales'.....	dis 35%
Kieser's No. 55.....	dis 40%
Kieser's Gem.....	dis 40%
Kieser's No. 82.....	dis 40%
Kieser's Monarch.....	dis 40%
Beef Shaver, (Enterprise Manf. Co.).....	dis 25%
MOLASSES GATES.	
Stebbins Patterns.....	dis 70%
Stebbins Genuine.....	dis 67%
Stebbins Tinned Ends.....	dis 40%
Chase's Hard Metal.....	dis 50%
Self-Measuring, (Enterprise).....	dis 20%
Lincoln's Pattern.....	dis 60%
Weed's.....	dis 15%
Boos Nos. 1, 2, 3, 4.....	dis 10%
Boos, Japanned Finish.....	dis 60%
Boos, Bronze Finish.....	dis 50%
NUTS AND WASHERS.	
Square Nuts.....	8 c off list.
Hexagon Nuts.....	8 1/2 c off list.
Washers.....	7 1/2 c off list.
COILS.	
Zinc and Tin.....	dis 60%
Brass and Copper.....	dis 50%
Malleable (Hammer's).....	dis 50%
PINKING IRONS.	
Per dozen.....	75 cts. net
PLATING MACHINES.	
Astor Plating Machine.....	each \$15, dis 20%
Crown Plating Machine.....	each \$15, dis 25%
6 in., \$6; 10 in., \$8 each.	
PLANES AND PLANE IRONS.	
Bench, First Quality.....	dis 20%
Bench, Second Quality.....	dis 25%
Molding.....	dis 15%
Bailey's (Stanley R. & L. Co.) New list, Jan. 1879.....	dis 20%
The Stanley (S. R. & L. Co.) new list, January 1879.....	dis 20%
Bailey's.....	dis 20%
Plane Irons, Butcher's.....	dis 20%
Plane Irons, Auburn Tool Co.....	dis 20%
Plane Irons, Ohio Tool Co.....	dis 20%
Plane Irons, Sandusky Tool Co.....	dis 20%
PLIERS AND NIPPERS.	
Button's Patent.....	dis 33%
Hall's Pat. Compound Lever Cutting Nippers.....	dis 25%
No. 2, 5 in., \$13.50; No. 4, 7 in., \$21.....	dis 25%
Gas Pliers.....	dis 50%
PLUMBS AND LEVELS.	
Stanley R. & L. Co.'s Pat. Adjustable.....	dis 40%
Stanley R. & L. Co.'s Non-Adjustable.....	dis 40%
Chapin's Patent Adjustable.....	dis 65%
Chapin's Non-adjustable.....	dis 65%
Standard Rule Co.'s New Adjustable.....	dis 65%
Standard Rule Co.'s Non-Adjustable.....	dis 65%
Pocket Levels.....	dis 65%
RAIL.	
Sliding Door, Wrought Brass.....	dis 43c, dis 30%
Sliding Door, Bronze Wrt. Iron.....	dis 12c, dis 35%
Sliding Door, Iron, Painted.....	dis 4c, dis 10%
Bars Door.....	dis 10%
Per 100 feet.....	dis 10%
B. D. for N. E. Hangers—	
Small. Med. Large.	
Per 100 feet.....	dis 10%
RIVETS.	
Iron and Tinned, new list, Dec. 10, 1881.....	dis 50%
In bulk, new list, Dec. 10, 1881.....	dis 50%
Copper Rivets and Butts.....	dis 60%
Nos. 7, 8, 9, 10, 11, 12, 13, 14.....	dis 50%
Dis. 49c, 50c, 52c, 54c, 56c, 58c, 60c, 62c, 64c, 66c, 68c, 70c.....	dis 40%
RIVET SETS.....	dis 40%
RODS.	
Stair, Brass.....	dis 25%
Stair, Black Walnut.....	dis 60c, dis 20c net
RULES.	
Boxwood. Ivory.	
Chapin's.....	dis 80%
Standard.....	dis 50%
Stanley.....	dis 50%
Stevens & Co.....	dis 70%
Stevens & Co. Miscellaneous.....	dis 50%
SAD IRONS.	
Self-Heating, Charcoal.....	dis 9.00 net
Mrs. Pott's Irons.....	dis 35%
Enterprise Star Irons, new list, July 20, 1881.....	dis 35%
Comb'd Fluter and Sad Iron.....	dis 15%
Common Sad Irons.....	dis 25%
SAND PAPER.	
Baeder & Adamson's Flint, 0000.....	\$4.50 per m.
Baeder & Adamson's Flint, 2, 2 1/2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.....	\$5.00 per m.
Baeder & Adamson's Flint, Assort'd.....	\$4.75 per m.
Baeder & Adamson's Flint, 3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/2, 7, 7 1/2, 8, 8 1/2, 9, 9 1/2, 10, 10 1/2, 11, 11 1/2, 12, 12 1/2, 13, 13 1/2, 14, 14 1/2, 15, 15 1/2, 16, 16 1/2, 17, 17 1/2, 18, 18 1/2, 19, 19 1/2, 20, 20 1/2, 21, 21 1/2, 22, 22 1/2, 23, 23 1/2, 24, 24 1/2, 25, 25 1/2, 26, 26 1/2, 27, 27 1/2, 28, 28 1/2, 29, 29 1/2, 30, 30 1/2, 31, 31 1/2, 32, 32 1/2, 33, 33 1/2, 34, 34 1/2, 35, 35 1/2, 36, 36 1/2, 37, 37 1/2, 38, 38 1/2, 39, 39 1/2, 40, 40 1/2, 41, 41 1/2, 42, 42 1/2, 43, 43 1/2, 44, 44 1/2, 45, 45 1/2, 46, 46 1/2, 47, 47 1/2, 48, 48 1/2, 49, 49 1/2, 50, 50 1/2, 51, 51 1/2, 52, 52 1/2, 53, 53 1/2, 54, 54 1/2, 55, 55 1/2, 56, 56 1/2, 57, 57 1/2, 58, 58 1/2, 59, 59 1/2, 60, 60 1/2, 61, 61 1/2, 62, 62 1/2, 63, 63 1/2, 64, 64 1/2, 65, 65 1/2, 66, 66 1/2, 67, 67 1/2, 68, 68 1/2, 69, 69 1/2, 70, 70 1/2, 71, 71 1/2, 72, 72 1/2, 73, 73 1/2, 74, 74 1/2, 75, 75 1/2, 76, 76 1/2, 77, 77 1/2, 78, 78 1/2, 79, 79 1/2, 80, 80 1/2, 81, 81 1/2, 82, 82 1/2, 83, 83 1/2, 84, 84 1/2, 85, 85 1/2, 86, 86 1/2, 87, 87 1/2, 88, 88 1/2, 89, 89 1/2, 90, 90 1/2, 91, 91 1/2, 92, 92 1/2, 93, 93 1/2, 94, 94 1/2, 95, 95 1/2, 96, 96 1/2, 97, 97 1/2, 98, 98 1/2, 99, 99 1/2, 100.....	\$6.50 per m.
Baeder & Adamson's Emery.....	\$6.50 per m.
J. Bartle's Sand, Flint and Emery Paper.....	dis 30%

Clancy's No. 100, per gross.....	\$ 8.00 dis 20%
Clancy's No. 101, per gross.....	8.00 dis 20%
Clancy's No. 105, per gross.....	10.00 dis 20%
SASH LOCK.	
Common.....	dis 14c, net
Patent.....	dis 17c, net
Silver Braided Lake Hemp.....	dis 50c, dis 10%
Silver Braid, Lake White Cotton.....	dis 50c, dis 10%
Silver Braided Lake Drab Cotton.....	dis 55c, dis 10%
Silver Lake Cable Laid, Bengall Unbleached Hemp, 17 cts.....	dis 10%
Russian Hemp, 10 cts.....	dis 10%
Italian Hemp, 14 cts.....	dis 10%
Samsen Braided, white cotton.....	dis 30%
drab cotton.....	dis 30%
SASH WEIGHTS.	
Solid Eyes, in 500-lb. lots and over, #1 1/2 c. net	
SAUSAGE STUFFERS OR FILLEES.	
Miles.....	dis 20c, dis 25%
No. 15, No. 16, No. 17, No. 18, No. 19, No. 20, No. 21, No. 22, No. 23, No. 24, No. 25, No. 26, No. 27, No. 28, No. 29, No. 30, No. 31, No. 32, No. 33, No. 34, No. 35, No. 36, No. 37, No. 38, No. 39, No. 40, No. 41, No. 42, No. 43, No. 44, No. 45, No. 46, No. 47, No. 48, No. 49, No. 50, No. 51, No. 52, No. 53, No. 54, No. 55, No. 56, No. 57, No. 58, No. 59, No. 60, No. 61, No. 62, No. 63, No. 64, No. 65, No. 66, No. 67, No. 68, No. 69, No. 70, No. 71, No. 72, No. 73, No. 74, No. 75, No. 76, No. 77, No. 78, No. 79, No. 80, No. 81, No. 82, No. 83, No. 84, No. 85, No. 86, No. 87, No. 88, No. 89, No. 90, No. 91, No. 92, No. 93, No. 94, No. 95, No. 96, No. 97, No. 98, No. 99, No. 100.....	dis 35%
Enterprise Mfg. Co.....	dis 30%
Monarch.....	dis 40%
SAWS.	
Boynnton's Lightning Cross Cuts, new list.....	dis 40%
Boynnton's Circular and Mill.....	dis 40%
Boynnton's Ice.....	dis 25%
Boynnton's Lightning Hand, Panel and Rip.....	dis 25%
Disston's Circular.....	dis 40%
Disston's Mill.....	dis 40%
Disston's Cross Cut.....	dis 40%
Disston's Hand, Panel, Rip, & C. Circular Saws.....	dis 40%
Hubbard, Bakewell & Co. Circular Saws.....	dis 40%
Hubbard, Bakewell & Co. Cross Cut.....	dis 40%
Hubbard, Bakewell & Co., One-Man's, X Cut.....	dis 40%
Hubbard, Bakewell & Co., Mill Saws.....	dis 40%
Peace Circular and Mill.....	dis 40%
Peace Hand, Panel and Rip.....	dis 25%
Peace Cross Cuts.....	dis 35%
Peace Hand Saws, all widths.....	dis 10%
Webster Cross Cut, with handles.....	dis 25%
Griffin's Hack Saws and Blades.....	dis 30%
SAW FRAMES.	
White.....	dis 1.05, dis 10%
Saw Rods.....	dis 1.10, dis 10%
SAW SETS.	
Stillman's Genuine.....	dis 3.50 and 5.50, dis 10%
Stillman's Imitation.....	dis 3.50, dis 10%
Common Lever.....	dis 2.00, dis 10%
Leach's.....	No. 1, \$1.50; No. 2, \$1.50; No. 3, \$1.50; No. 4, \$1.50; No. 5, \$1.50; No. 6, \$1.50; No. 7, \$1.50; No. 8, \$1.50; No. 9, \$1.50; No. 10, \$1.50; No. 11, \$1.50; No. 12, \$1.50; No. 13, \$1.50; No. 14, \$1.50; No. 15, \$1.50; No. 16, \$1.50; No. 17, \$1.50; No. 18, \$1.50; No. 19, \$1.50; No. 20, \$1.50; No. 21, \$1.50; No. 22, \$1.50; No. 23, \$1.50; No. 24, \$1.50; No. 25, \$1.50; No. 26, \$1.50; No. 27, \$1.50; No. 28, \$1.50; No. 29, \$1.50; No. 30, \$1.50; No. 31, \$1.50; No. 32, \$1.50; No. 33, \$1.50; No. 34, \$1.50; No. 35, \$1.50; No. 36, \$1.50; No. 37, \$1.50; No. 38, \$1.50; No. 39, \$1.50; No. 40, \$1.50; No. 41, \$1.50; No. 42, \$1.50; No. 43, \$1.50; No. 44, \$1.50; No. 45, \$1.50; No. 46, \$1.50; No. 47, \$1.50; No. 48, \$1.50; No. 49, \$1.50; No. 50, \$1.50; No. 51, \$1.50; No. 52, \$1.50; No. 53, \$1.50; No. 54, \$1.50; No. 55, \$1.50; No. 56, \$1.50; No. 57, \$1.50; No. 58, \$1.50; No. 59, \$1.50; No. 60, \$1.50; No. 61, \$1.50; No. 62, \$1.50; No. 63, \$1.50; No. 64, \$1.50; 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No. 126, \$1.50; No. 127, \$1.50; No. 128, \$1.50; No. 129, \$1.50; No. 130, \$1.50; No. 131, \$1.50; No. 132, \$1.50; No. 133, \$1.50; No. 134, \$1.50; No. 135, \$1.50; No. 136, \$1.50; No. 137, \$1.50; No. 138, \$1.50; No. 139, \$1.50; No. 140, \$1.50; No. 141, \$1.50; No. 142, \$1.50; No. 143, \$1.50; No. 144, \$1.50; No. 145, \$1.50; No. 146, \$1.50; No. 147, \$1.50; No. 148, \$1.50; No. 149, \$1.50; No. 150, \$1.50; No. 151, \$1.50; No. 152, \$1.50; No. 153, \$1.50; No. 154, \$1.50; No. 155, \$1.50; No. 156, \$1.50; No. 157, \$1.50; No. 158, \$1.50; No. 159, \$1.50; No. 160, \$1.50; No. 161, \$1.50; No. 162, \$1.50; No. 163, \$1.50; No. 164, \$1.50; No. 165, \$1.50; No. 166, \$1.50; No. 167, \$1.50; No. 168, \$1.50; No. 169, \$1.50; No. 170, \$1.50; No. 171, \$1.50; No. 172, \$1.50; No. 173, \$1.50; No. 174, \$1.50; No. 175, \$1.50; No. 176, \$1.50; No. 177, \$1.50; No. 178, \$1.50; No. 179, \$1.50; No. 180, \$1.50; No. 181, \$1.50; No. 182, \$1.50; No. 183, \$1.50; No. 184, \$1.50; No. 185, \$1.50; No. 186, \$1.50; No. 187, \$1.50; No. 188, \$1.50; No. 189, \$1.50; No. 190, \$1.50; No. 191, \$1.50; No. 192, \$1.50; No. 193, \$1.50; No. 194, \$1.50; No. 195, \$1.50; No. 196, \$1.50; No. 197, \$1.50; No. 198, \$1.50; No. 199, \$1.50; No. 200, \$1.50; No. 201, \$1.50; No. 202, \$1.50; No. 203, \$1.50; No. 204, \$1.50; No. 205, \$1.50; No. 206, \$1.50; No. 207, \$1.50; No. 208, \$1.50; No. 209, \$1.50; No. 210, \$1.50; No. 211, \$1.50; No. 212, \$1.50; No. 213, \$1.50; No. 214, \$1.50; No. 215, \$1.50; No. 216, \$1.50; No. 217, \$1.50; No. 218, \$1.50; No. 219, \$1.50; No. 220, \$1.50; No. 221, \$1.50; No. 222, \$1.50; No. 223, \$1.50; No. 224, \$1.50; No. 225, \$1.50; No. 226, \$1.50; No. 227, \$1.50; No. 228, \$1.50; No. 229, \$1.50; No. 230, \$1.50; No. 231, \$1.50; No. 232, \$1.50; No. 233, \$1.50; No. 234, \$1.50; No. 235, \$1.50; No. 236, \$1.50; No. 237, \$1.50; No. 238, \$1.50; No. 239, \$1.50; No. 240, \$1.50; No. 241, \$1.50; No. 242, \$1.50; No. 243, \$1.50; No. 244, \$1.50; No. 245, \$1.50; No. 246, \$1.50; No. 247, \$1.50; No. 248, \$1.50; No. 249, \$1.50; No. 250, \$1.50; No. 251, \$1.50; No. 252, \$1.50; No. 253, \$1.50; No. 254, \$1.50; No. 255, \$1.50; No. 256, \$1.50; No. 257, \$1.50; No. 258, \$1.50; No. 259, \$1.50; No. 260, \$1.50; No. 261, \$1.50; No. 262, \$1.50; No. 263, \$1.50; No. 264, \$1.50; No. 265, \$1.50; No. 266, \$1.50; No. 267, \$1.50; No. 268, \$1.50; No. 269, \$1.50; No. 270, \$1.50; No. 271, \$1.50; No. 272, \$1.50; No. 273, \$1.50; No. 274, \$1.50; No. 275, \$1.50; No. 276, \$1.50; No. 277, \$1.50; No. 278, \$1.50; No. 279, \$1.50; No. 280, \$1.50; No. 281, \$1.50; No. 282, \$1.50; No. 283, \$1.50; No. 284, \$1.50; No. 285, \$1.50; No. 286, \$1.50; No. 287, \$1.50; No. 288, \$1.50; No. 289, \$1.50; No. 290, \$1.50; No. 291, \$1.50; No. 292, \$1.50; No. 293, \$1.50; No. 294, \$1.50; No. 295, \$1.50; No. 296, \$1.50; No. 297, \$1.50; No. 298, \$1.50; No. 299, \$1.50; No. 300, \$1.50; No. 301, \$1.50; No. 302, \$1.50; No. 303, \$1.50; No. 304, \$1.50; No. 305, \$1.50; No. 306, \$1.50; No. 307, \$1.50; No. 308, \$1.50; No. 309, \$1.50; No. 310, \$1.50; No. 311, \$1.50; No. 312, \$1.50; No. 313, \$1.50; No. 314, \$1.50; No. 315, \$1.50; No. 316, \$1.50; No. 317, \$1.50; No. 318, \$1.50; No. 319, \$1.50; No. 320, \$1.50; No. 321, \$1.50; No. 322, \$1.50; No. 323, \$1.50; No. 324, \$1.50; No. 325, \$1.50; No. 326, \$1.50; No. 327, \$1.50; No. 328, \$1.50; No. 329, \$1.50; No. 330, \$1.50; No. 331, \$1.50; No. 332, \$1.50; No. 333, \$1.50; No. 334, \$1.50; No. 335, \$1.50; No. 336, \$1.50; No. 337, \$1.50; No. 338, \$1.50; No. 339, \$1.50; No. 340, \$1.50; No. 341, \$1.50; No. 342, \$1.50; No. 343, \$1.50; No. 344, \$1.50; No. 345, \$1.50; No. 346, \$1.50; No. 347, \$1.50; No. 348, \$1.50; No. 349, \$1.50; No. 350, \$1.50; No. 351, \$1.50; No. 352, \$1.50; No. 353, \$1.50; No. 354, \$1.50; No. 355, \$1.50; No. 356, \$1.50; No. 357, \$1.50; No. 358, \$1.50; No. 359, \$1.50; No. 360, \$1.50; No. 361, \$1.50; No. 362, \$1.50; No. 363, \$1.50; No. 364, \$1.50; No. 365, \$1.50; No. 366, \$1.50; No. 367, \$1.50; No. 368, \$1.50; No. 369, \$1.50; No. 370, \$1.50; No. 371, \$1.50; No. 372, \$1.50; No. 373, \$1.50; No. 374, \$1.50; No. 375, \$1.50; No. 376, \$1.50; No. 377, \$1



## THE BAY LINE

—FOR—  
FORTRESS MONROE, NORFOLK and the SOUTH.

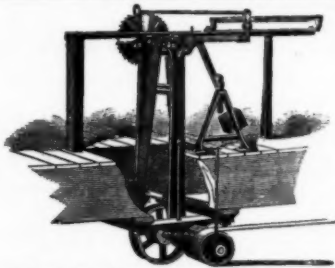
The Bay Line comprises the New and Elegant Steamers  
"VIRGINIA," "CAROLINA" and "FLORIDA."

All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baltimore daily except Sundays at 9 P. M.

At Old Point Comfort is located the SPLENDID HYGEIA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's office.

157 W. BALTIMORE ST., BALTIMORE,

Or on Board of Steamers.  
D. J. HILL, Superintendent.  
E. BROWN, General Ticket Agent.



New Swing Cross Cut Saw,

with rigid iron frame and steel arbor. The frame is mounted on a heavy iron base, bolted to the joist under the floor. Saw Mill Mandrels, Saw Machinery, and all sizes of Saw Arbors.

R. M. McNEETH & CO.

185 Pearl Street, Cincinnati, Ohio.

## BRADLEY'S UPRIGHT CUSHIONED HELVE HAMMER



any other Hammer in the World.

BRADLEY & CO. Syracuse, N. Y.

REPAIRING A SPECIALTY.

**ATLANTA SAW WORKS.**

Manufacturers of every variety of **SAWS!!**

And dealers in **SAW MILL SUPPLIES**

Workmanship guaranteed to give perfect satisfaction.

Atlanta, C.

## THE BRADSTREET Mercantile Agency

HAS NOW BEEN

Under its present successful management for the past seven years.

And during that time its business has more than trebled, while its facilities have proportionately increased.

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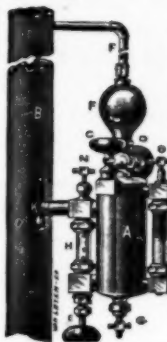
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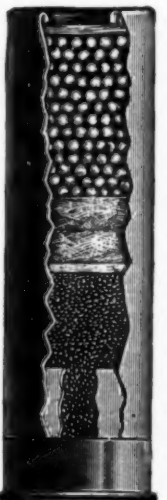
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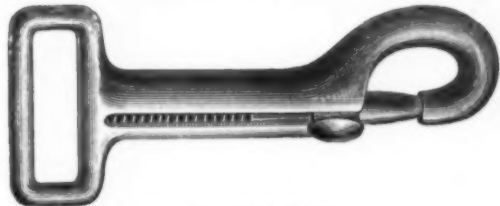
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Over One-half of the Leading Jobbers are now heavy buyers of the COVERT "NEW" PATENT SNAP, finding in their superior quality and moderate price a most satisfactory inducement. We have guaranteed, and still continue to guarantee them to give perfect satisfaction, which guarantee has been fully substantiated by many flattering testimonials we have received attesting their superior merits.

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## Business Chances.

**42-For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 40 words, from those in the South who have good business openings that they wish to bring to public notice, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers superintendents, engineers, &c.**

**In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record.**

**Parties advertising in this column must have replies sent to their own address, and not to care of Manufacturers' Record, unless stamps are sent for forwarding replies. Advertisements sent not in accordance with this requirement will not be inserted.**

**PARTNER WANTED** with \$3,000 or more to start a stove and bucket factory, by party who is an experienced mill man, owns timbered lands, steam saw mill, iron lathe, planer and good set machinist's tools. Will guarantee the investment and \$5 per annum. Address A. K. Fisher, Abbeville, Wilcox county, Ga.

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**I WISH** to sell Seven Thousand Acres Finest Woodlands in the South. Woods comprise countless thousands of White, Post, Red and other oaks, Hickory, Pine, Ash, Cypress, Maple, Gum, Walnut, Sycamore, etc., etc. Want mill men and lumber merchants throughout the United States to communicate with me at once. E. B. C. Cash, Cash's Depot, S. C.

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That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 60-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturing line in New England. Hercules wheels are sold in England, Ireland and Scotland, and on the Continent, a cable order having been received only a few days ago for one to go to France. The manufacturers say: "The Hercules gives the most power for its size and the highest average percentage from full to one-half gate of any wheel ever made." Their advice to all users of water wheels is to "get the best at first." If you are interested in water wheels, if you want a new wheel or a larger wheel, or a better wheel than you are using, write to the Holyoke Machine Co., Worcester, Mass., for catalogue No. 3.

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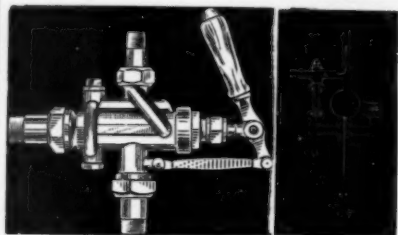
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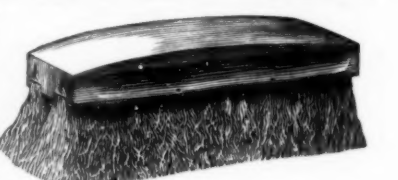
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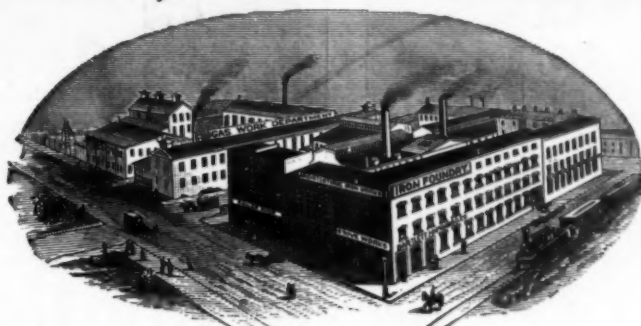
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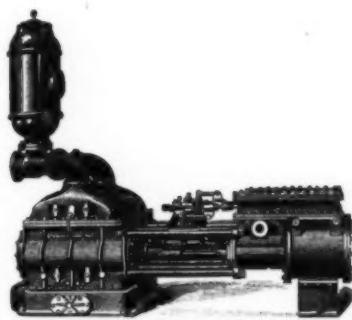
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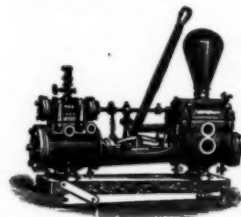
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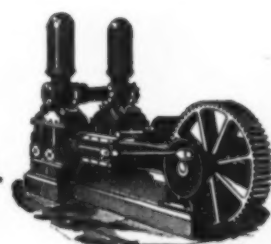
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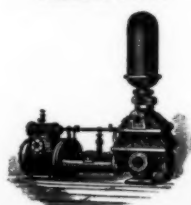
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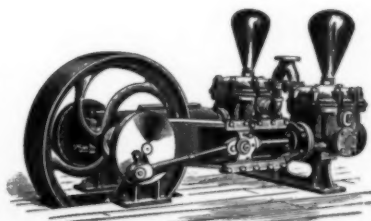
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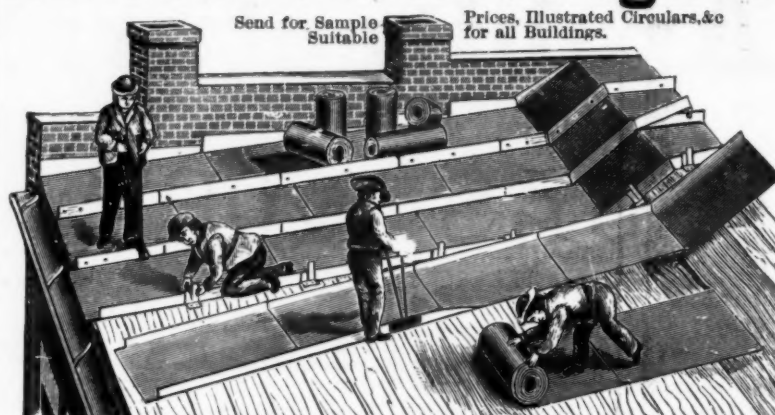
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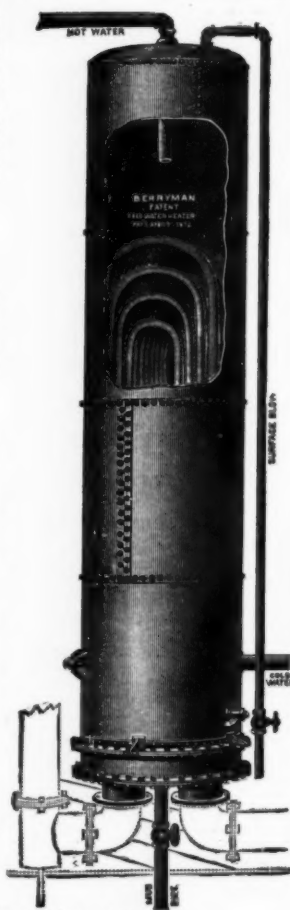
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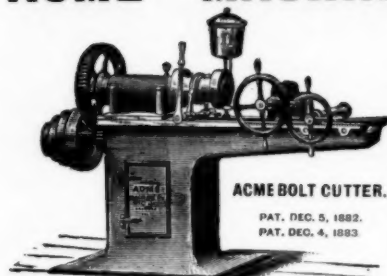
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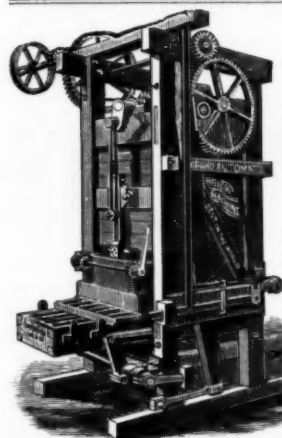


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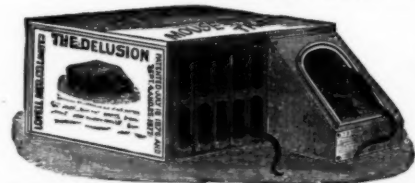
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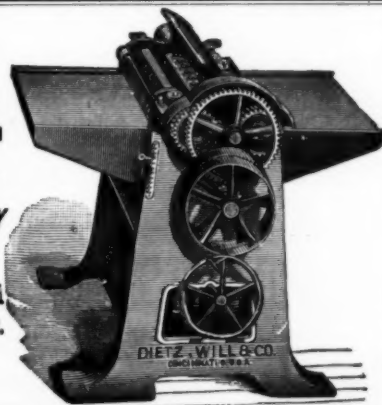
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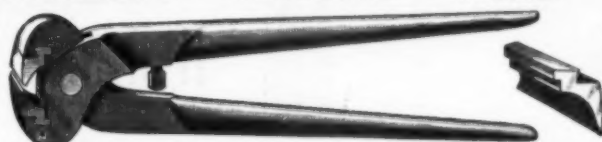
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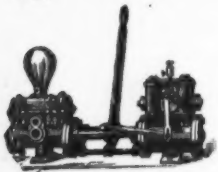
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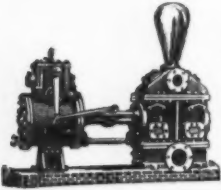
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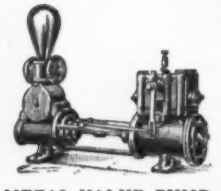
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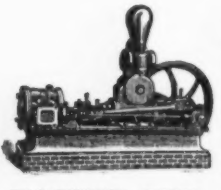
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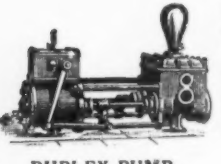
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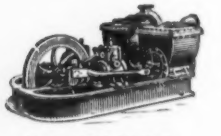
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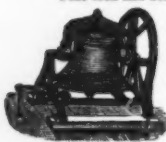


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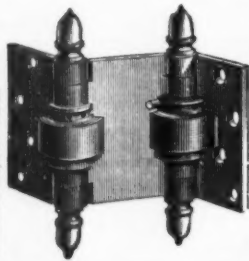
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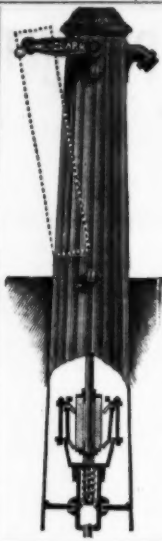
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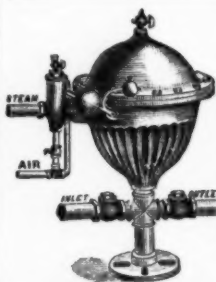
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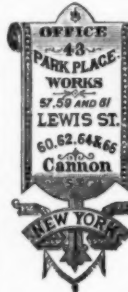


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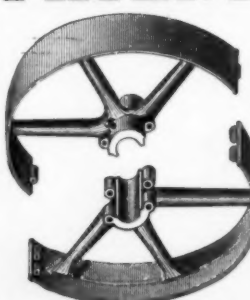
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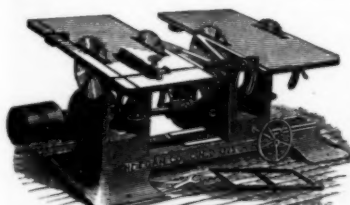
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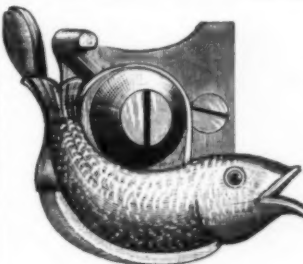
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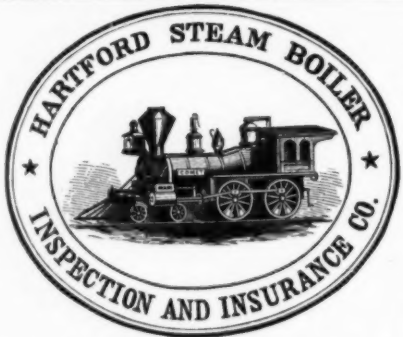
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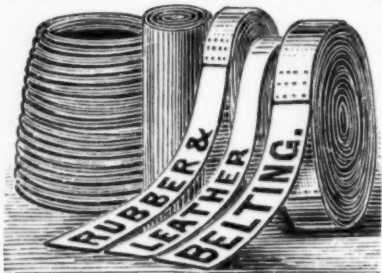
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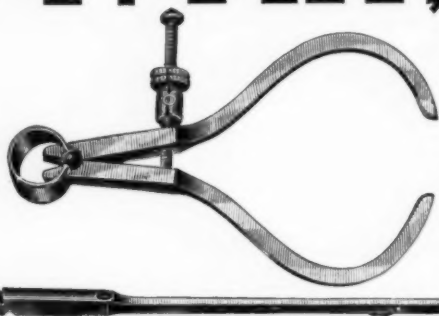
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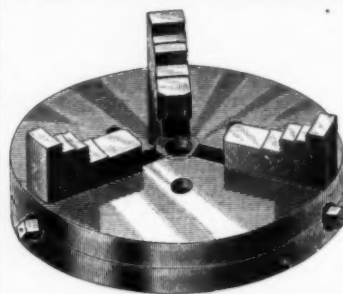
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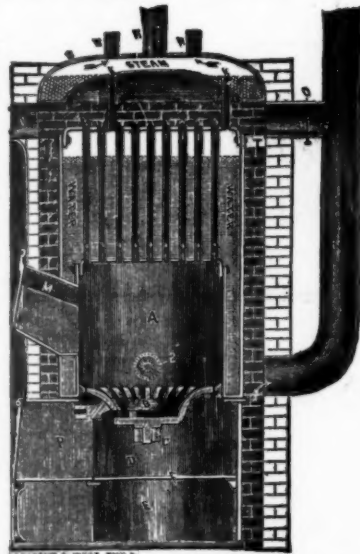
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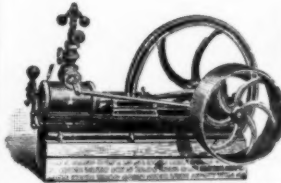
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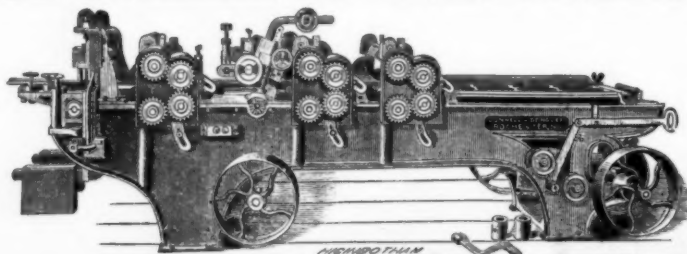
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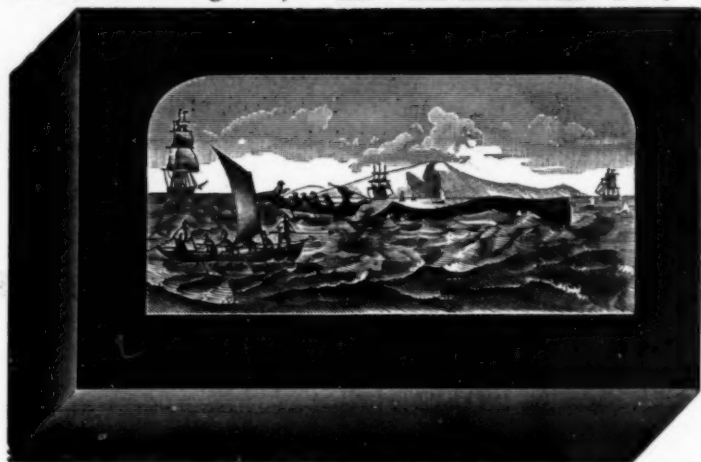
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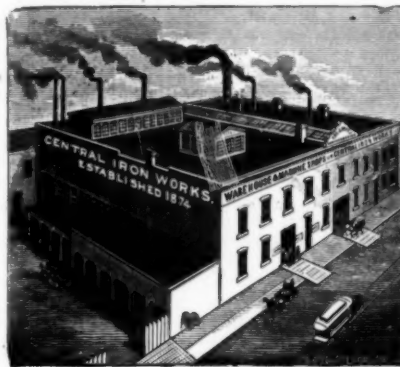
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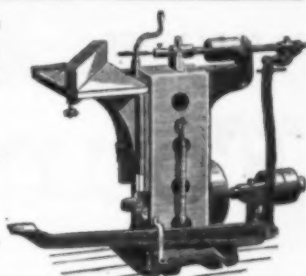
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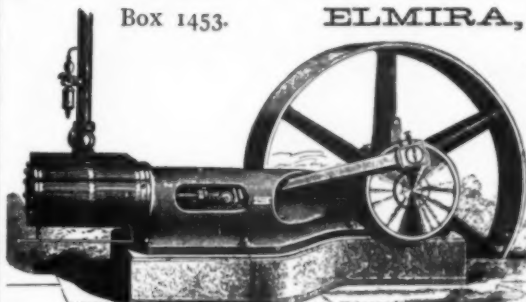
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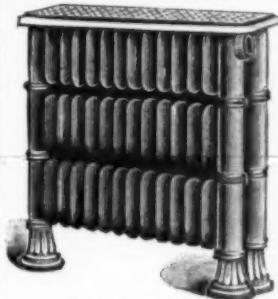
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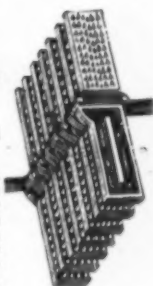
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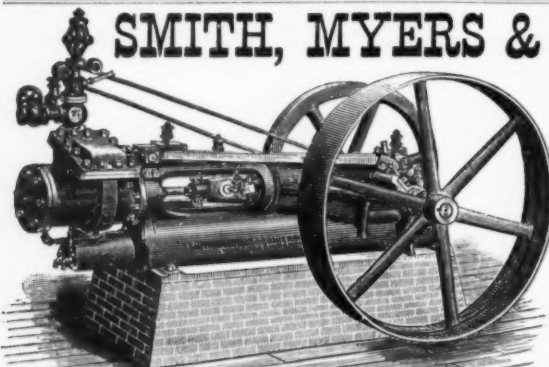
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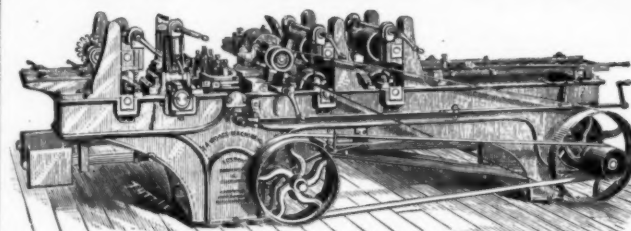
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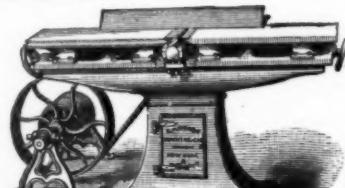


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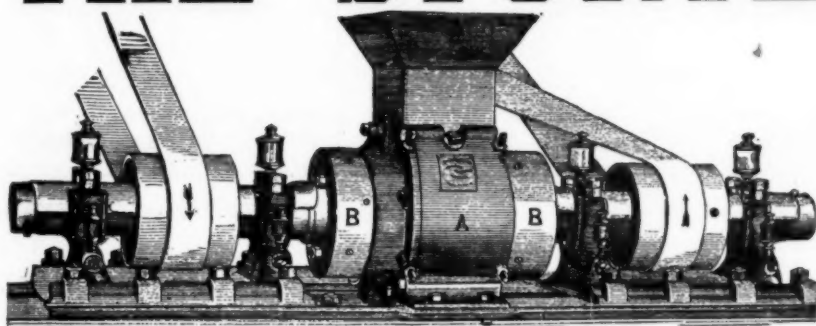
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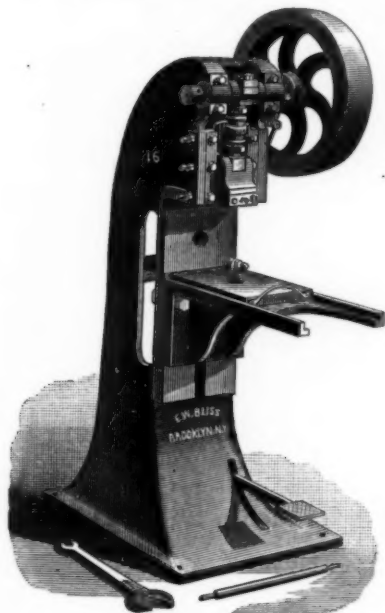
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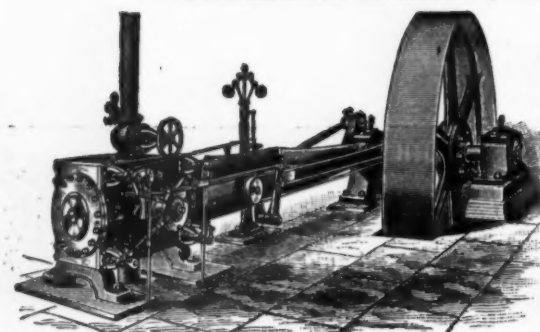
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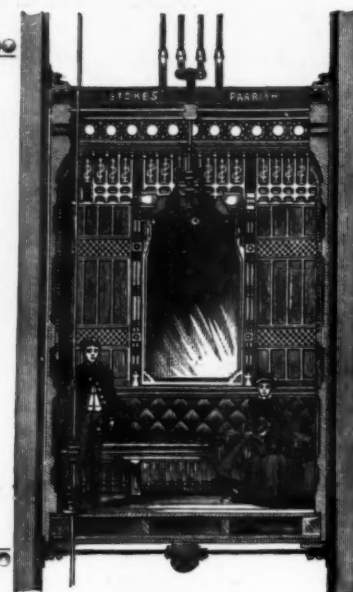
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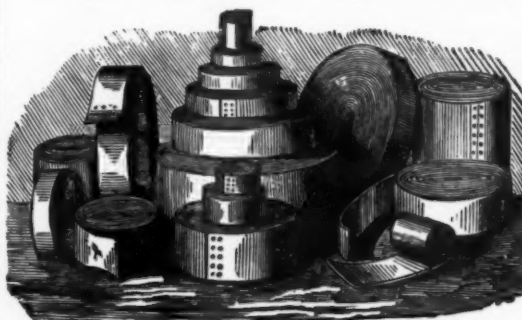
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